MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS & CONSULTANTS

June 30, 2000

Mr. Jim Riley
Environmental Engineering
180 Challenger Way, Building 243 - Suite 111
Los Angeles Air Force Base
El Segundo, California 90245-4652

Re: Submittal of Final Phase I Environmental Baseline Survey
Area A, Area B, Lawndale Annex, Fort MacArthur, Pacific Heights and Pacific Crest
Utility Privatization and Real Property Transfer
Los Angeles Air Force Base (LAAFB), California
Contract No. DACA31-94-D-0017, D.O. DY01

Dear Mr. Riley:

Malcolm Pirnie, Inc. is pleased to submit the Final Phase I Environmental Baseline Survey (EBS) Report for Utility Privatization and Real Property Transfer and Draft Environmental Suitability Decision Documents for LAAFB. The Draft Phase I EBS has been revised in accordance with comments received from LAAFB, the U.S. Army Corps of Engineers - Fort Worth District, and Air Force Center for Environmental Excellence. The comments and Malcolm Pirnie's responses are attached to this letter.

This Final EBS/Draft ESDD report includes the enclosed CD and has been distributed according to the attached submittal distribution list.

If you have any questions regarding this submittal, please contact me at (914) 641-2690.

Very truly yours,

MALCOLM PIRNIE, INC.

John M. Logigian
Associate

C: S. Schwarz, MPI
L. Warner, MPI

attachments: Submittal Distribution List, Draft Comments

CORPORATE PARK DR BOX [illegible] WHITE PLAINS NY [illegible] 914-694-[illegible] 914-694-9286 FAX

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Submittal Distribution List for Final Phase I EBS
Utility Privatization and Real Property Transfer
Los Angeles Air Force Base, California

Submitted to:	No. of Copies
Mr. Jim Riley, Chief Environmental Engineering 180 Challenger Way, Building 243 - Suite 111 Los Angeles Air Force Base El Segundo, California 90245-4652	6
Mr. Jerry Brabant HQ AFMC/CEIO Competitive Sourcing & Utilities Privatization Branch 4225 Logistics Avenue Wright-Patterson AFB, Ohio 45433-5746	2
Mr. Curtis Hoagland., CESWF-EV-EE Environmental Planning Section US Army Corps of Engineers, Fort Worth District 819 Taylor Street Fort Worth, Texas 76102-0300	1
Captain R. Scott Grainger HQAFCEE/CEA 3207 North Road Brooks Air Force Base San Antonio, Texas 78235-5363	1

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer

General Comments

#	Comment By:	Comment	A/E Response
1	Curtis Hoagland US Army Corps of Engineers (USACE), Ft. Worth	Executive Summary is requested for EBS.	The document was revised in accordance with this comment.
2	Curtis Hoagland USACE, Ft. Worth	Ensure most current version of Draft AFI 32-7066 is used. (Note Capt. S. Grainger's comments and A/E Response to Preliminary Draft)	The document was revised in accordance with this comment.
3	Peter Campbell SMC/AXFC	What should be described about our ammonia leakage problem? Reference Medical Dental Clinic design.	This comment was clarified via electronic mail and telephone conversations with Michael Szekely of LAAFB. There is no known ammonia leakage problem at LAAFB.
4	R. Scott Grainger Air Force Center for Environmental Excellence (AFCEE)	The seismic sections (i.e., Section 3.1.7.3.3) warrant more discussion since LAAFB is in a highly seismic area. At least provide a general discussion of the area.	The document was revised in accordance with this comment.
5	R. Scott Grainger AFCEE	Need to discuss how adjacent properties (i.e., Section 3.2) affect the subject property. Is there potential to contaminate the property. Groundwater flow, surface water flow, etc.	No information was obtained that indicated an adverse environmental impact from adjacent or vicinity properties of concern on the subject properties. There is potential for LAAFB properties to have been or be adversely affected by adjacent properties. The text of the document will be revised to include this information.
6	R. Scott Grainger AFCEE	Need a map showing the categorization of utility corridors. In most if not all cases, the utilities themselves are Category 1, however the utility corridors will depend on surrounding conditions.	The document was revised in accordance with this comment.
7	R. Scott Grainger AFCEE	Summarize information in tables per the guidance document and the Draft AFI.	The document was revised in accordance with this comment.
8	Charlie J. Brown AFCEE	Identify and address only the storage, use/generation, disposal, and/or migration of HM/HW that are being directly associated with the system and land being transferred.	The information presented in the text regarding HM/HW is directly associated with LAAFB, the system and land potentially being transferred.

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer
General Comments contd.

#	Comment By:	Comment	A/E Response
9	Charlie J. Brown AFCEE	Need to indicate whether or not any HM/HW were are 1) stored in the system, 2) used/generated by the system, 3) released by the system, 4) migrating into the system, 5) stored on the subject property's utility corridor and or facility/buffer, or 6) migrating into the subject property's utility corridor and/or facility buffer	The document incorporates information regarding HM/HW storage, use, release, and migration where the information was obtained by the A/E.
10	Charlie J. Brown AFCEE	Identify and address HM/HW stored in aboveground storage tanks (ASTs) not exceeding 660—gal or stored lockers. HM/HW stored in ASTs exceeding 660-gal should be listed in this section and addressed in Section 3.4.3.1 Aboveground Storage Tanks	The document was revised to include text regarding HM storage containers greater than and less than 660-gallons. The document does not contain a Section 3.4.3.1.
11	Charlie J. Brown AFCEE	Identify and address HM/HW stored in underground storage tanks (USTs) not exceeding 110—gal. HM/HW stored in USTs exceeding 110-gal should be listed in this section and addressed in Section 3.4.3.2 Underground Storage Tanks	According to information provided by LAAFB personnel, no USTs are used for the storage of HM/HW at LAAFB properties. Former USTs and current USTs (Building 235) were/are used for the storage of petroleum substances. Please see Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2 and 7.1.5.2. The document does not contain a Section 3.4.3.2.
12	Charlie J. Brown AFCEE	Identify and address releases/disposals and/or migrations of HM/HW into or onto the subject property that have not or are not being considered as an IRP site. Releases/disposals and/or migrtions of HM/HW into or onto the subject property that have been or are being considered as an IRP site should be identified in this section and addressed in the IRP section.	The document was revised in accordance with this comment.
13	Charlie J. Brown AFCEE	Need to indicate if any HM/HW are stored, used, released, or disposed in greater than reportable quantities. If so the requirements in 40 CFR 373 must be satisfied.	As indicated in Sections 3.1.5.1.2, 4.1.5.1.2, and 6.1.5.1.2 – Area A, Area B, and Fort MacArthur are Resource Conservation and Recovery Act (RCRA) large quantity generators (LQGs). Being regulated as LQGs indicates that they store HW in greater than reportable quantities. Sections 5.1.5.1.2 and 7.1.5.1.2 indicate that neither Lawndale Annex nor the Pacific Heights/Pacific Crest Housing areas are identified as RCRA generators.

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer

General Comments contd,

#	Comment By:	Comment	A/E Response
14	Charlie J. Brown AFCEE	Identify and address only the storage, use/generation, disposal, and/or migration of petroleum products/petroleum waste (PP/PW) that are being directly associated with the system and land being transferred.	The information presented in the text regarding PP/PW is directly associated with LAAFB, the system and land potentially being transferred.
15	Charlie J. Brown AFCEE	Need to indicate whether or not any PP/PW were are 1) stored in the system, 2) used/generated by the system, 3) released by the system, 4) migrating into the system, 5) stored on the subject property's utility corridor and or facility/buffer, or 6) migrating into the subject property's utility corridor and/or facility buffer	The document incorporates information regarding PP/PW storage, use, release, and migration where the information was obtained by the A/E.
16	Charlie J. Brown AFCEE	Identify and address PP/PW stored in aboveground storage tanks (ASTs) not exceeding 660—gal or stored lockers. PP/PW stored in ASTs exceeding 660-gal should be listed in this section and addressed in Section 3.4.3.1 Aboveground Storage Tanks	Please see Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2 and 7.1.5.2. The document does not contain a Section 3.4.3.1.
17	Charlie J. Brown AFCEE	Identify and address PP/PW stored in underground storage tanks (USTs) not exceeding 110—gal. HM/HW stored in USTs exceeding 110-gal should be listed in this section and addressed in Section 3.4.3.2 Underground Storage Tanks	Please see Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2 and 7.1.5.2. The document does not contain a Section 3.4.3.2.
18	Charlie J. Brown AFCEE	Identify and address releases/disposals and/or migrations of PP/PW into or onto the subject property that have not or are not being considered as an IRP site. Releases/disposals and/or migrations of PP/PW into or onto the subject property that have been or are being considered as an IRP site should be identified in this section and addressed in the IRP section.	The document was revised in accordance with this comment.
19	Charlie J. Brown AFCEE	Identify and address only the storage, use/generation, disposal, and/or migration of hazardous substances/petroleum substances (HS/PS) that are directly associated with the system and land being transferred.	Hazardous substances are addressed in Sections 3.1.5.1, 4.1.5.1, 5.1.5.1, 6.1.5.1, and 7.1.5.1. The hazardous substances include HM/HW. Petroleum substances include PP/PW. PP is addressed in Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2, and 7.1.5.2. PW is addressed along with HW in Sections 3.1.5.1.2, 4.1.5.1.2, 5.1.5.1.2, 6.1.5.1.2, and 7.1.5.1.2.

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer

General Comments contd.

#	Comment By:	Comment	A/E Response
20	Charlie J. Brown AFCEE	Need to indicate whether or not any HS/PS were are 1) stored in the system, 2) used/generated by the system, 3) released by the system, 4) migrating into the system, 5) stored on the subject property's utility corridor and or facility/buffer, or 6) migrating into the subject property's utility corridor and/or facility buffer	Hazardous substances are addressed in Sections 3.1.5.1, 4.1.5.1, 5.1.5.1, 6.1.5.1, and 7.1.5.1. The hazardous substances include HM/HW. Petroleum substances include PP/PW. PP is addressed in Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2, and 7.1.5.2. PW is addressed along with HW in Sections 3.1.5.1.2, 4.1.5.1.2, 5.1.5.1.2, 6.1.5.1.2, and 7.1.5.1.2.
21	Charlie J. Brown AFCEE	Identify and address HS/PS stored in aboveground storage tanks (ASTs) not exceeding 660—gal or stored lockers. PP/PW stored in ASTs exceeding 660-gal should be listed in this section and addressed in Section 3.4.3.1 Aboveground Storage Tanks	Hazardous substances are addressed in Sections 3.1.5.1, 4.1.5.1, 5.1.5.1, 6.1.5.1, and 7.1.5.1. The hazardous substances include HM/HW. Petroleum substances include PP/PW. PP is addressed in Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2, and 7.1.5.2. PW is addressed along with HW in Sections 3.1.5.1.2, 4.1.5.1.2, 5.1.5.1.2, 6.1.5.1.2, and 7.1.5.1.2.
22	Charlie J. Brown AFCEE	Identify and address HS/PS stored in underground storage tanks (USTs) not exceeding 110—gal. HM/HW stored in USTs exceeding 110-gal should be listed in this section and addressed in Section 3.4.3.2 Underground Storage Tanks	Hazardous substances are addressed in Sections 3.1.5.1, 4.1.5.1, 5.1.5.1, 6.1.5.1, and 7.1.5.1. The hazardous substances include HM/HW. Petroleum substances include PP/PW. PP is addressed in Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2, and 7.1.5.2. PW is addressed along with HW in Sections 3.1.5.1.2, 4.1.5.1.2, 5.1.5.1.2, 6.1.5.1.2, and 7.1.5.1.2.
23	Charlie J. Brown AFCEE	Identify and address releases/disposals and/or migrations of HS/PS into or onto the subject property that have not or are not being considered as an IRP site. Releases/disposals and/or migrations of PP/PW into or onto the subject property that have been or are being considered as an IRP site should be identified in this section and addressed in the IRP section.	Hazardous substances are addressed in Sections 3.1.5.1, 4.1.5.1, 5.1.5.1, 6.1.5.1, and 7.1.5.1. The hazardous substances include HM/HW. Petroleum substances include PP/PW. PP is addressed in Sections 3.1.5.2, 4.1.5.2, 5.1.5.2, 6.1.5.2, and 7.1.5.2. PW is addressed along with HW in Sections 3.1.5.1.2, 4.1.5.1.2, 5.1.5.1.2, 6.1.5.1.2, and 7.1.5.1.2.
24	Charlie J. Brown AFCEE	Identify and address only the release/disposal and/or migration of HS/PS that are directly associated with the system and land being transferred. IRP sites or Areas under Consideration (Acs) that do not underlie the sysem or land being transferred are discussed in the Adjancent Property section, not the Subject Property section.	Area A, Area B, Lawndale Annex, Fort MacArthur, Pacific Heights, and Pacific Crest are all subject properties in this survey. These are the only properties discussed in subject property sections.

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer

General Comments contd.

#	Comment By:	Comment	A/E Response
25	Charlie J. Brown AFCEE	Need to identify the status of the IRP sites. 1) indicate the general substance that is being treated, use: HS, PS, OS (Other Substance – Substance being remediated that is regulated under other statutes than CERCLA) and the specific type of substance, i.e., TCE, etc., 2) indicate stage of remediation, use: PA/SI, RFS, RI/FS, RFI/CMS, ROD, SOB, RD/RA, CMI, CO, NFA, 3) indicate status, use: in progress, submitted (for No further Action or Close Out stage), action taken, or approved (for No Further Action or Close Out stage)	The stage of remediation and status of the sites was originally included in the text. The contaminants (i.e., TCE) involved were also included. Please see Sections 3.1.5.4, 4.1.5.4, 5.1.5.4, 6.1.5.4, and 7.1.5.4
26	Charlie J. Brown AFCEE	Identify and address only the disclosure factor concerns that are located on or will affect the subject property (the land and system being transferred).	The disclosure factor concerns identified and addressed are those related to LAAFB and its facilities/structures.
27	Charlie J. Brown AFCEE	Check and Resolve: Only identify and address emission sources that are being transferred (must be part of the utility lines or facilities/structures)	The emission sources identified and addressed are those related to LAAFB and its facilities/structures.

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer
Volume I – Introduction and Area A

	Comment By:	Page #	Location on Page	Comment	A/E Response
1	Michael Szekely ABG/CEZV	3-1	Section 3.1.1.1	"G.E. American Communications held a license for an earth station, 75 ft. by 75 ft. of land, which was granted in 1988 and due for renewal in 1993." List current status of the license.	The document was revised in accordance with this comment.
2	Charlie J. Brown AFCEE	3-10	Section 3.1.5.5	Check and Resolve. Some of the information presented in Section 3.1.5.5 Other Environmental Investigations should be addressed in the section titled *Installation Restoration Program Sites/Areas under Consideration* as an AC. If the site has not been or is not being considered as an IRP site or as an AC site it should be addressed in one of the other sections.	The document does not contain a section titled *Installation Restoration Program Sites/Areas Under Consideration*. IRP sites are discussed in Section 3.1.5.4 *Installation Restoration Program Sites*. Other sites that the A/E deemed notable for consideration are included in Section 3.1.5.5
3	Peter Campbell SMC/AXFC	3-13	Section 3.1.6.8	"In some buildings, energy-efficient lighting upgrades have resulted in the removal and off-site disposal of potential PCB light ballasts." List the building if known. Base CE must have a record of these upgrades.	The document was revised in accordance with this comment.
4	Charlie J. Brown AFCEE	3-13	Section 3.1.6.10	Narratives need to address past and present conditions	The document will be revised in accordance with this comment.
5	Charlie J. Brown AFCEE	3-13	Section 3.1.6.10	Clarify. Is Building 130 located in Area A? Section 3.1.5.5 leads the reader to believe that Building 130 contained some form of radioactive material and this section indicates that Area A is free of radioactive materials.	Building 130 is located in Area A. Section 3.1.5.5 indicates that it may have housed a beryllium laboratory at one time. Beryllium is very toxic but it is not radioactive. However, if the laboratory was processing beryllium ore, there is a potential for radioactive contamination because uranium is an accessory mineral of beryllium ore. Another possibility for contamination is if the lab used a man-made radioactive isotope of beryllium

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer
Volume I – Introduction and Area A contd.

	Comment By:	Page #	Location on Page	Comment	A/E Response
6	Charlie J. Brown AFCEE	3-14	Section 3.1.7.2	Need to indicate whether the wetland is a delineated wetland or not.	Wetland information was taken from the National Environmental Policy Act search conducted by EDR. EDR searches National Wetland Inventory data (47 CFR 1.1307). The wetland identified in Section 3.1.7.2 is included in that inventory and was, therefore, delineated by the federal government.
7	Curtis Hoagland USACE, Ft. Worth	3-18	Section 3.3	Subject Property Characterization, Category 2: Gate 3 UST (SS/ST-11) listed was removed/remediated, therefore it should be placed in Category 4 classification per Draft AFI 32-7066.	The Gate 3 UST (SS/ST-11) is correctly listed as Category 2 using the most recent Draft AFI guidance document. Category 2 areas are those "where release, disposal of petroleum substances has occurred". Category 4 involves hazardous substances. All releases of petroleum substances are Category 2.
8	Peter Campbell SMC/AXFC	Appendix A-4	N/A	Building Summaries: This appendix lists buildings 105, 115, and 130 data sheets. For next submittal show data sheets for all the buildings in Area A.	The A/E was only allowed to visit buildings 105, 115, and 130 during the site reconnaissance effort (due to security concerns). We do not have data sheets for the remaining Area A buildings.

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer

Volume II –Area B

	Comment By:	Page #	Location on Page	Comment	A/E Response
1	Peter Campbell SMC/AXFC	4-5	2nd paragraph	"As the gas enters LAAFB Property,…60 psi to 3 psi." Change to 60 psig to 3 psig.	The document was revised in accordance with this comment.
2	Peter Campbell SMC/AXFC	Appendix B-3	12th paragraph	Potential PCBs paragraph, change presents to presence.	The document was revised in accordance with this comment.
3	Michael Szekely ABG/CEZV	Appendix B-3	Photo 82	"Photo 82, Building 244: Exterior of Building from East" and "Photo 82, Building 244: Interior of Warehouse in Building" have the same number. Change 82 to 83 and re-number rest of section to coincide.	The document was revised in accordance with this comment.
4	Peter Campbell SMC/AXFC	Appendix B-5	Map 02 of 02	Electrical and Street Lighting System Area "B", drawing 02 of 02 Electrical Site. Callout of 3750 KVA main substation with arrow shown going to building 220 is incorrect. The main unit substation #1 is shown correctly on drawing 01 of 02. Additionally the drawing should show the main feed coming in from Douglas St.	The document was revised in accordance with this comment.

Volume III – Lawndale Annex

	Comment By:	Page #	Location on Page	Comment	A/E Response
1	Peter Campbell SMC/AXFC	5-11	Section 5.3	"Based on the available data,…" This lists Pacific Heights and Pacific Crest. It should be Lawndale Annex.	The document was revised in accordance with this comment.

Response to Comments on
Draft Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer
Volume IV- Fort MacArthur

	Comment By:	Page #	Location on Page	Comment	A/E Response
1	Michael Szekely ABG/CEZV	6-8	2nd paragraph	"The removal of two 10,000-gallon fuel USTs located east of Building 104 and 105 is…" Change to 104 and 105 Smallwood Drive are…	The document was revised in accordance with this comment.
2	Capt. L. Ross SMC/JAQ	6-12	2nd paragraph	"The twenty-eighth building is the former American Trona Plant, building 425." Twenty-eighth should be changed to twenty-seventh.	The document was revised in accordance with this comment.
3	Michael Szekely ABG/CEZV	Appendix D	Table of Contents	Change "D-2 Building Summaries" to D-2 Building Summaries and Photos.	The document was revised in accordance with this comment.
4	Michael Szekely ABG/CEZV	Appendix D-2	Photos 2 & 3	Fort MacArthur Family Housing Section: "Photos 2 & 3, Building 1045" should be changed to 104 Smallwood Drive.	The document was revised in accordance with this comment.
5	Michael Szekely ABG/CEZV	Appendix D-2	Photos 4, 5 & 6	Fort MacArthur Family Housing Section: "Photos 4, 5 & 6, Building 330" is ambiguous, there is more than one Building 330. Please list street name to identify building correctly.	The document was revised in accordance with this comment.
6	Michael Szekely ABG/CEZV	Appendix D-2	Photos 8 & 9	Fort MacArthur Base Section: "Photos 8 & 9, Building 74: Exterior of Building" are identical. Eliminate one from the section. Re-number rest of section to coincide.	The document was revised in accordance with this comment.

FINAL PHASE I ENVIRONMENTAL BASELINE SURVEY
UTILITY PRIVATIZATION AND REAL PROPERTY TRANSFER
LOS ANGELES AIR FORCE BASE, CALIFORNIA

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The purpose of this Environmental Baseline Survey for Utility Privatization and Real Property Transfer (EBS) is to address the environmental condition of the utility systems (including electric, natural gas, water and wastewater systems), housing, and associated real estate of Los Angeles Air Force Base (LAAFB) properties included in the privatization effort. The areas being considered for privatization are Area A, Area B, Lawndale Annex, Fort MacArthur (Base and Military Family Housing (MFH)), Pacific Heights MFH and Pacific Crest MFH. The survey process included a document review, a site reconnaissance effort covering the interior and exterior of accessible buildings, and interviews with site personnel. The EBS was performed in accordance with Draft Revised Air Force Instruction 32-7066 and ASTM D6008-96. This EBS focuses on all areas included in the LAAFB privatization effort and adjacent properties that could impact the environmental quality of the properties.

Area A encompasses 41.45 acres and is located at the southeast corner of El Segundo Boulevard and Aviation Boulevard in the City of El Segundo, Los Angeles County, California. Area B is located on the opposite corner (northwest) of El Segundo Boulevard and Aviation Boulevard in El Segundo, CA. Area B encompasses 53.70 acres. Lawndale Annex encompasses approximately 13.34 acres and is located south of Areas A and B in the City of Hawthorne, CA. Fort MacArthur is located in San Pedro, CA, approximately 21 miles south of downtown Los Angeles. The area encompasses approximately 96 acres. The Pacific Heights MFH area is located southwest of the intersection of Western Avenue and 25th Street in San Pedro, CA. The Pacific Crest MFH area is located northwest of the intersection of Western Avenue and 25th Street in San Pedro, CA (Figure 1-1).

Based on available data, facilities/structures and associated utility corridors at each subject property were characterized and coded according to the following seven categories:

Category 1 – Areas where no release or disposal of hazardous substances or petroleum substances has occurred (including no migration of these substances from adjacent areas).

Category 2 – Areas where only release or disposal of petroleum substances has occurred.

Category 3 – Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require removal or remedial response.

Category 4 – Areas where release, disposal, and/or migration of hazardous substances have occurred, and all removal or remedial actions have been taken.

Category 5 – Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions are underway, but not yet taken.

Category 6 – Areas where release, disposal, and/or migration of hazardous substances has occurred, but remedial actions have not been implemented.

Category 7 – Areas that have not been evaluated or require additional evaluation.

Portions of Area A were classified as Categories 1, 2, 3, and 4. The majority of the property was classified as Category 1. Three former leaking underground storage tank (LUST) sites and a petroleum Installation Restoration Program (IRP) site were classified as Category 2. A chemical (pesticide) IRP site was classified as Category 3 and a neutralization basin site was classified as Category 4.

Portions of Area B were classified as Categories 1, 2, 4, and 7. The majority of the property was classified as Category 1. Nine former LUST sites were classified as Category 2. The location of a former seepage pit on the northeast corner of Building 215 was categorized as Category 4. South of Building 215 and adjacent to Douglas Street the location of two 10,000-gallon USTs without known closure documentation is classified as Category 7.

Lawndale Annex was classified as Category 1.

Fort MacArthur was classified as Categories 1, 2, 3, 4, and 7. The majority of the property including, the MFH areas were classified as Category 1. The location of two former LUSTs was classified as Category 2. A pesticide wastewater IRP site was classified as Category 3 and the Building 453 battery acid neutralization IRP site was classified as Category 4. Five areas were classified as Category 7 including the former Trona Complex and the locations of six USTs without known closure documentation. The USTs operated adjacent to Buildings 80, 408, 42, and 32.

The Pacific Crest MFH area was classified as Category 1. The Pacific Heights MFH area was also classified as Category 1 except for the location of a disposal area IRP site. That site is classified as Category 4.

1.0 INTRODUCTION

1.1 BACKGROUND AND PURPOSE

Los Angeles Air Force Base (LAAFB) houses and supports the headquarters of the Air Force Materiel Command's Space and Missile Systems Center. The center manages the research, development and acquisition of military space systems.

The purpose of this Phase I Environmental Baseline Survey for Utility Privatization and Real Property Transfer (EBS) is to address the environmental condition of the LAAFB utility systems (including electric, natural gas, water and wastewater systems), housing, and associated real estate for the following areas included in the privatization effort:

- Area A
- Area B
- Lawndale Annex
- Fort MacArthur (Base and Military Family Housing (MFH))
- Pacific Heights MFH
- Pacific Crest MFH

This Phase I EBS was conducted in accordance with Air Force Instruction 32-7066 and ASTM D6008-96. The EBS focuses on all the areas included in the LAAFB privatization effort and adjacent sites that could impact the environmental quality of the properties to be privatized.

1.2 ORGANIZATION OF EBS

The EBS is organized as follows:

- Chapter 1 is an introduction to the EBS, explaining the purpose and providing the layout of the EBS.

- Chapter 2 summarizes the procedure that was followed to conduct the EBS, including descriptions of the visual inspections, document review, and interviews.

- Chapter 3 presents the findings for subject property Area A and its adjacent properties.

- Chapter 4 presents the findings for subject property Area B and its adjacent properties.

- Chapter 5 presents the findings for subject property Lawndale Annex and its adjacent properties.

- Chapter 6 presents the findings for subject property Fort MacArthur (Base and MFH) and its adjacent properties.

- Chapter 7 presents the findings for subject properties Pacific Crest MFH and Pacific Heights MFH and their adjacent properties.

- Chapter 8 presents conclusions drawn from the findings of the EBS

1.3 SURVEY AREA BOUNDARIES

This EBS addresses six areas and the accessible interiors and exteriors of their associated buildings. The exteriors of adjacent buildings were also surveyed. A site plan on the following pages depicts the properties covered in this EBS (Figure 1-1).

2.0 SURVEY METHODOLOGY

2.1 APPROACH AND RATIONALE

The U.S. Army Corps of Engineers (USACE) and the Los Angeles Air Force Base (LAAFB) retained Malcolm Pirnie, Inc. to conduct an Environmental Baseline Survey for Utility Privatization and Real Property Transfer (EBS). A kickoff meeting was held on Thursday, 22 July 1999 with USACE and LAAFB personnel to identify information resources and knowledgeable site personnel at LAAFB. At the meeting, MPI requested and received access to the following information relating to the utilities, buildings, and the immediate vicinity.

- Aerial Photographs
- Biennial Hazardous Waste Reports
- Asbestos Surveys and/or abatement reports
- Hazardous Waste Inventory
- Historical and current base operations documentation/narrative
- Installation Restoration Program (IRP) studies
- Lead Surveys and/or abatement reports
- Maps (showing utilities, locations of buildings, storage tanks, storm sewers, water wells, oil-water separators or other waste treatment systems)
- Permits
- Liquid-Filled Transformers Listing
- Pesticide usage and application information
- Radon Surveys and/or abatement reports
- Documentation of Environmental Site Investigations/Remediations
- Real Property Records

The information presented in this EBS was obtained through a records review, visual site surveys, and interviews with base personnel.

2.2 RECORDS REVIEW

Prior to the site visit, a historical records review was conducted to determine previous property uses and the potential for related environmental contamination. Available Air Force files, utility drawings, reports and other records were reviewed. Environmental database reports were prepared by Environmental Data Resources, Inc. (EDR), a commercial database service that searches federal, state, and local databases for relevant environmental information for the subject and adjacent properties. The EDR reports are provided in the appendices.

During the site visit, the on-site document repositories were searched to gather information pertinent to the EBS. In addition, historical aerial photographs were evaluated for indications of hazardous material usage and storage, hazardous waste storage, historic landfill areas, and other land uses of concern.

2.3 VISUAL SITE SURVEYS

Each area and its associated buildings, as accessible, were visually evaluated to identify obvious signs or indications of hazardous material uses/releases, potential asbestos containing materials, possible PCB-containing electrical equipment, and other potential environmental concerns. Field investigators also noted which utilities served each building. A building checklist was completed for each building surveyed and photographs were taken when permitted. Completed building summaries and photographs are provided in the appendices. The following areas were not surveyed due to access limitations:

- A limited site survey at Area A was conducted due to security concerns. Buildings 105, 115, and 130 were surveyed as representative structures. Taking photographs was not permitted at Area A.

- Some portions of Area B buildings' interiors or sides of buildings' exteriors were not accessible.

- Some Fort MacArthur buildings' interiors or sides of buildings' exteriors were not accessible. In the housing areas, a representative walkthrough was conducted for each housing type.

- Walkthroughs were conducted of representative housing structures at Pacific Heights MFH and Pacific Crest MFH.

2.4 INTERVIEWS WITH BASE PERSONNEL

Each building point of contact (POC) was questioned regarding information on the EBS building checklist. In addition, Rowena Andres of LAAFB Environmental Engineering coordinated interviews with knowledgeable site personnel. Site personnel interviewed include: Andrew Craddock of Fort MacArthur Operations and Maintenance; Amos Jones and John Kusmik of Real Property Management; Claude Lee of LAAFB Operations and Maintenance; TSgt. Brian Whitehouse of Bioenvironmental Engineering; Edward Wilson of Base Energy Management; and Rowena Andres, Michael Hanna, Nelson Martinez, and Christopher Phillips of Environmental Engineering.

2.5 TITLE SEARCH

Copies of available LAAFB real estate files are provided in the appendices.

3.0 AREA A

3.1 SUBJECT PROPERTY FINDINGS

This section of the EBS includes the findings of the records review, visual surveys, and base personnel interviews conducted for the subject properties at Area A, LAAFB.

3.1.1 History and Current Usage

Area A of LAAFB encompasses 41.45 acres and is located at the southeast corner of El Segundo Boulevard and Aviation Boulevard in the City of El Segundo, Los Angeles County, California. Figure 3-1 depicts the location of Area A.

3.1.1.1 Chain of Title Review

Copies of Area A real estate files, including some recorded land title records, are provided in Appendix A-1. The following is a list of utility easements in place at Area A (LAAFB 1993).

- Southern California Edison Co. has a 0.07-acre easement to provide electric service to Area A. The easement was granted in 1957 for an indefinite term.
- Los Angeles County has a 0.002-acre easement to provide storm drainage service to Area A. The easement was granted in 1957 for an indefinite term.
- G.E. American Communications held a license for an earth station, 75 ft. by 75 ft. of land, which was granted in 1988 and due to be renewed in 1993. The license was not renewed and the earth station was removed in 1999.

No Area A easements were identified for Southern California Gas Co. (natural gas), Southern California Water Company (drinking water), nor the City of El Segundo (sewer).

3.1.1.2 Past Usage

In the Fall of 1955, the Space Technology Laboratories (STL) Division of the Ramo-Woolridge Corporation purchased the property and subsequently constructed a Research and Development Center. In 1960, the U.S. government purchased the facility from STL for use by the Aerospace Corporation, a non-profit corporation which assists the USAF to research space systems advancements. In April 1964, the facility was transferred to the USAF from the Aerospace Corporation and initially redesignated Los Angeles Air Force Station (LAAFB 1993).

Historical aerial photographs of the Area A property (from 1927 to 1963) were reviewed for information regarding prior use, evaluation of land use and development, and to help identify signs of potential environmental concerns. The 1927 and 1941 photographs indicate agricultural and residential usage on Area A and the adjacent properties. In the 1927 and 1941 photographs, Area A was occupied by agricultural plots, a building fronting on El Segundo Blvd., and several outbuildings.

In the 1955 photograph, Area A appears to have been slightly disturbed or graded. Some of the outbuildings shown on the earlier photographs are no longer present, although the building on El Segundo Blvd. is still extant. Residential subdivisions have been constructed on the adjacent properties to the south, east and northeast. The 1956 photograph shows what appears to be the beginning of excavation work for the construction of the STL facility on Area A. The adjacent property use is similar to the 1955 photograph, except that a cement plant has been constructed across Aviation Blvd. to the west.

The 1963 photographs document the completed construction of Buildings 100 through 130 on Area A (it should be noted the buildings were originally designated alphabetically). Adjacent property uses are similar to the 1956 photograph, except that construction of a commercial building is underway on the west side of Aviation Blvd. (currently the Electronic Enclosures, Inc. property) and a gas station is present on the northeast corner of Aviation Blvd. and El Segundo Blvd. The aerial photographs from 1927, 1941, 1955, 1956, and 1963 are presented in Appendix A-2.

3.1.1.3 Current Usage

LAAFB became the headquarters of the Space and Missile Division in October 1979. Area A consists of 7 buildings housing engineering, research and administrative offices and a laboratory, combined with parking areas and landscaped open space to create a campus-like setting. Area A is located in an urban/suburban setting. The surrounding property uses consist of residential, retail/commercial and light industrial uses.

3.1.2 Environmental Setting

A description of the general environmental setting of Area A is summarized in the following sections.

3.1.2.1 Topography and Drainage Patterns

The topography at Area A is generally level. Surface elevations range from approximately 91-92 feet above mean sea level (MSL) along the eastern and western property boundaries, to a high point of approximately 96-98 above MSL located near Building 105.

Drainage structures on Area A consist of an aboveground system of open swales and box culverts and an underground system of 4-inch to 30-inch diameter reinforced concrete pipe. The underground storm drain system is comprised of 4,380 ft. of piping. Stormwater on the roofs and around the buildings is collected in catch basins and flows through the underground piping system to the southern boundary of Area A. At that point, the flow exits beneath the railway right-of-way, through a reinforced concrete box, into a paved ditch at the intersection of Wiseborn St. and Isis Ave. The drainage system is connected to the Los Angeles County Flood Control District storm drainage system (ESE 1985).

The Real Property Accountable Record for the storm drainage system on Area A indicated that two 3,000 gallon “underground storage tanks” (USTs) are used to retain

drainage, and that these USTs are located on the north side of Building 120. Retained stormwater is discharged from the tanks to the Area A storm drainage system using two 170 gpm capacity pumps. Review of the Storm Drain System drawing (provided in Appendix A-3) and discussions with LAAFB Environmental staff indicate that the two features are actually subsurface stormwater retention sumps that retain drainage from the mall area. Their designation as "USTs" in the Real Property Record appears to be a misnomer.

3.1.2.2 Groundwater, Hydrology, And Geology

LAAFB lies within the Los Angeles Basin, a topographic lowland plain. Unconsolidated and indurated sediments, ranging in age from Jurassic to Recent, characterize the stratigraphy of the Los Angeles Basin. The youngest deposits underlying Area A consist of a thin veneer of late Pleistocene quartz dune sand. These deposits are mapped as the Older Dune Sand deposits and consist of fine-to-medium grained sands with minor amounts of gravel, sandy silt, and clay. The Older Dune Sand ranges up to 200 ft. in thickness.

The hydrogeologic units in the subsurface at Area A are the San Pedro Formation, the Lakewood Formation, and the Older Dune Sand unit. The Older Dune Sand is the uppermost water-bearing unit underlying Area A. It occurs as a semi-perched, unconfined aquifer, with groundwater flow generally in an east-to-west direction, toward the Pacific Ocean (ESE 1985). LAAFB Environmental staff indicated the depth to the water table at Area A is approximately 90 feet below grade.

Three monitoring wells were installed near Gate 3 in 1989, in the southernmost portion of Area A, to investigate a UST release (refer to Section 3.1.5.4). The wells were installed to an average depth of 90 feet and sampled on a quarterly basis through 1991. No groundwater contamination was detected. Geologic cross sections prepared by the USACE in 1996 indicate the subsurface soils in this portion of Area B consist of interbedded layers of clay, silty sand, clayey sand, and sand to approximately 60 feet below grade (61 ABG/CEZV 1997).

3.1.3 Buildings Overview

Area A consists of 7 buildings identified as 100, 105, 110, 115, 120, 125 and 130. Due to site security issues and the comparable use, construction type, and vintage of the buildings, not all buildings were visited. Information for selected buildings (105, 115 and 130), based on site visits and a records search, is summarized in Appendix A-4. The summaries contain available information including: construction date, construction materials, current building use, prior building uses, utility information, and potential environmental concerns.

3.1.4 Utility Overview

This section presents an overview of the utilities at Area A: electrical, water, wastewater, natural gas, and HVAC utility systems. Civil Engineering (CE) is tasked with overall base utility management. Drawings of each utility are presented in Appendix A-3. A summary of utility information is also provided in Appendix A-5.

3.1.4.1 Electrical Utility System

Southern California Edison Co. supplies Area A with electricity. A drawing depicting the electrical distribution system at Area A is provided in Appendix A-3. The main Gas and Power Substation for Area A is located west of and adjacent to Building 100. Southern California Edison Co. (SCE) owns the electrical portion of the substation and the meters, and is responsible for their maintenance. Ownership and maintenance responsibility for the secondary side of the distribution system (service lines and building substations) lies with LAAFB.

The Master Plan Electrical diagram indicates each building on Area A contains a substation with a 1,000 KVA base rating. An additional 2,500 KVA transformer is located outside the northeast corner of Building 130 (Caltech Service Corp. 1998). The Real Property Accountable Records indicate that each building on Area A has a 1,250 to 2,000 KVA substation. The difference in substation ratings between the two sources may be due to design enhancements implemented within each substation, however, this was not verified. The Area A distribution system consists of approximately 2,600 ft. of underground distribution line (connecting each building substation to the SCE substation). The service voltage at Area A is 16,000 volts. The average monthly Area A energy consumption in 1999 was approximately 1.148 million kWh and the maximum monthly demand was 3,232 kW. This maximum demand occurred in July and November of 1999 (SCE 2000).

According to the Air Emission Sources database provided by LAAFB Environmental, six generators provide backup power for Buildings 100, 105, 120 and 130 (three generators are installed in Building 130). Each generator runs on diesel fuel, and five of the six are permitted air emission sources. One 34 BHP diesel generator in Building 130 is non-permitted.

3.1.4.2 Water Utility System

Area A purchases potable water from Southern California Water Company (SCWC). The water delivered by SCWC is a blend of groundwater pumped from the West Coast Groundwater Basin and imported water from the Colorado River Aqueduct and the State Water Project in Northern California. The West Coast Groundwater Basin stretches southwest from the Newport-Inglewood Fault Zone between the Baldwin Hills and Orange County to the Pacific Ocean (SCWC 1999).

Water is supplied through a connection on the western side of Area A (near Building 130). A drawing depicting the water distribution system at Area A is included in Appendix A-3. There are two SCWC account numbers for Area A and each account is associated with two meters. The average cumulative (all four meters) monthly usage based on the first 10 months of 1999 was approximately 1.578 million gallons. Water service is delivered at approximately 70 pounds per square inch (psig), according to the water distribution system drawing. SCWC reported that water pressure varies widely in the vicinity of Area A (50-150 psi), and site-specific measurements are necessary for a more accurate pressure report.

The water distribution system on Area A was installed during the construction of the facility by STL circa 1957. Water is distributed throughout Area A through underground pipelines, ranging in size from 3 to 12 inches. Water utility lines are located approximately 4 to 6 feet underground. Area A has an estimated 5,780 linear feet of distribution pipe. Pipe materials consist primarily of asbestos cement (transite) pipe. The Real Property Accountable Record for the water distribution mains indicates the transite mains terminate within 20 feet of each building, and the remainder of the connection to each building consists of cast iron pipe. LAAFB owns and maintains the water distribution lines on Area A. Limited repairs and focused upgrades have been implemented as necessary to repair leaks, however, no system-wide upgrade or replacement projects have been undertaken.

3.1.4.3 Wastewater System

The Area A wastewater system discharges to the City of El Segundo sewage system at one unmetered point. Domestic sewage is collected through underground pipelines ranging in diameter from 4 inches to 12 inches. A drawing depicting the wastewater piping system at Area A is provided in Appendix A-3.

The pipe construction material used at Area A is vitrified clay (clay tile). There are 4,250 feet of wastewater mains and lines on Area A. The wastewater infrastructure at Area A was installed circa 1957.

3.1.4.4 Natural Gas

Southern California Gas Co. supplies natural gas to Area A through a single metered connection. The natural gas main located beneath Aviation Boulevard carries natural gas at a pressure of 140 pounds per square inch (psig); this is reduced to 60 psig in the lateral, which supplies Area A. A single 2-inch high pressure gas line enters Area A from Aviation Blvd., on the northwestern corner of the property. The high pressure line terminates at the Gas and Power Substation located approximately 300 ft. from Aviation Boulevard; natural gas is distributed at 3 psig through Area A. The average monthly usage for the first eleven months of 1999 was approximately 13,998 therms. The maximum monthly usage of 37,482 therms occurred in January 1999 and the minimum usage of 2,417 therms occurred in October 1999 (SCG 2000). A drawing showing the natural gas distribution system at Area A is provided in Appendix A-3.

Natural gas is distributed on Area A throughout underground steel gas lines ranging in diameter from 1.5 to 10 inches. The base distribution system consists of 3,340 feet of gas mains. The system was installed in 1958. All natural gas piping is the property of the Air Force.

3.1.4.5 HVAC (Boilers and Chillers)

Each building in Area A is equipped with boilers and chillers to provide heating and cooling. Descriptions of the equipment are based on the site visit and information from the Real Property Accountable Records and the Permitted/Non-Permitted Air Emission Sources database.

Each building contains three water tube type boilers. The boilers use natural gas as the primary fuel. The boilers were constructed to run on fuel oil as a backup to natural gas,

and the Real Property Accountable Records indicate each building was constructed with a fuel oil UST. At the time of Area A's transfer to the USAF, the fuel oil backup support system consisted of a 3,000 to 4,600 gallon underground tank for each building. As described in Section 3.1.5.2, these USTs are no longer present.

Each building also contains two chillers, with the exception of Building 125, which contains three chillers. Each pair of chillers in Buildings 100, 105, and 110, and single chillers in Buildings 115, 120, 125, and 130, use R-123 refrigerant, which contains hydrochlorofluorocarbons (HCFCs). One chiller each in Buildings 115, 120, 125, and 130 uses R-11, a refrigerant containing chlorofluorocarbons (CFCs). The third chiller in Building 125 uses R-22.

80-gallon plastic drums of chemical additives were observed in the chiller rooms visited in Buildings 105 and 115. The drums were stored on secondary containment platforms and were equipped with feed lines to the system.

3.1.5 Property Categorization Factor Findings

This section presents the property categorization factor findings based on hazardous substances, petroleum substances, treatment systems, and IRP sites.

3.1.5.1 Hazardous Substances

Hazardous substances include both hazardous materials and hazardous wastes.

3.1.5.1.1 Hazardous Materials

Hazardous materials (HM) are usable products that may pose a physical threat or hazard to humans or the environment. Such materials include, but are not limited to, flammable and combustible liquids, corrosives, and compressed gases. HM is stored and used at various locations throughout Area A. The largest and primary user of HM on Area A is the Aerospace Corporation's laboratory facility located in Building 130.

The Aerospace Corporation's Chemical Inventory is attached as Appendix A-6. Interviews with Aerospace Corporation staff indicated a "pharmacy system" is used to control storage, distribution and usage of HM from a central location at Room 1250 in Building 130. HM is stored in Room 1250 in flammable lockers and on open shelving. HM is also stored in smaller quantities inside vent hoods and flammable cabinets in the various laboratories within Building 130. HM deliveries are directed to two secure, caged areas with secondary containment, which are accessed from the east side of Building 130. Compressed gases are stored in nine 53.9 cu. ft. ASTs outside the northeast corner of Building 130. Liquid nitrogen is stored in a 3,000 gallon AST outside the southern side of the building.

The volumes of the stored HM are included in Appendix A-6. The majority of HM is stored in containers that do not exceed 660-gallons, however, some HM is stored in larger quantities. In addition to the 3,000-gallon AST mentioned above, these materials include compressed gases stored in the courtyard of Room 101; and the floors of several rooms throughout Building 130 (Appendix A-6).

Building 130 also houses a USAF Photo Shop in Rooms 1521 through 1674. A six-month inventory of photochemicals is maintained on open metal shelves in a storage room. The Photo Shop staff indicated they inspect chemicals with expired shelf lives to

evaluate whether they can be extended, to reduce HW disposal. No indications of releases were observed during the site visit.

Building maintenance chemicals were also observed during the Area A site visits, including 80-gallon tanks of HVAC system additives and small quantities of lubricating oils, paints, and degreasers in some mechanical rooms. Minor staining was noted on the floors of some mechanical rooms in Buildings 105 and 115, and in the corridor leading to the elevator room in Building 105.

A subsurface soil investigation was conducted adjacent to the eastern end of Building 130, an area used for hazardous material and equipment storage, in 1990. Low concentrations of volatile organic, semi-volatile organic, and inorganic compounds were detected in the soils. The investigation and results are discussed in more detail in Section 3.1.5.5.

3.1.5.1.2 Hazardous and Regulated Waste

Los Angeles AFB is designated as a RCRA large quantity generator (EPA ID CAL000076732). Waste tracking reports provided by LAAFB Environmental staff indicate waste streams from Area A consist of oil-contaminated absorbents and lithium batteries, generated by ACCS in Building 130. The 1997 Hazardous Waste (HW) Biennial Report listed the following HW streams for Area A: lead paint, chips, and debris from a lead paint abatement project; waste mastic remover from an abatement project; spent silver recovery units; waste acetone; waste paint; waste sodium hydroxide solution, waste solid sodium hydroxide detergent; and waste paint thinner (61 ABG 1998a).

The Aerospace Corporation, also a large quantity generator (EPA ID CAD009553637) disposes of HW generated in its Building 130 laboratory separately from the USAF. The 1997 HW Biennial Report for the Aerospace Corporation listed the following waste streams for Building 130: oil and mixed oil, ignitable hazardous waste solids, waste aerosols (inorganic and flammable), flammable liquids (lab packs), flammable/corrosive liquids, flammable/reactive liquids, flammable/reactive solids, waste charcoal, waste hydrazine solution, waste hydrofluoric acid solution, waste caustic alkali, waste corrosive ascarite, reactive solid chemicals, silver-containing waste liquids, and hazardous waste solids containing non-halogenated solvents (Aerospace 1998).

Two HW accumulation points are located in Building 130. The Aerospace Corporation maintains a secure, caged HW accumulation point with secondary containment at the southeastern corner of the building. The USAF also maintains an enclosed, secure HW accumulation point with secondary containment in the southeastern corner of Building 130. No indications of releases from these areas were observed during the site visit.

3.1.5.2 Petroleum Substances/Storage Tanks

Area A was transferred to the USAF with 7 underground storage tanks (USTs). One UST was associated with each building, and the USTs provided a back-up fuel supply for each building's boilers, according to the Real Property Accountable Records. LAAFB Environmental staff reported that each of these USTs has been removed.

Soil contamination was encountered during removal of the fuel oil USTs at Buildings 105, 110 and 125. Contamination was addressed at Buildings 105 and 110 via soil removal. A bioventing system was installed at Building 125 in 1993. The Building 125

system operated from December 1993 until December 1994. In July 1995, the remediation of the Building 125 site was considered complete (Parsons 1995).

It is inferred from LAAFB records that soil contamination was not encountered during the removal of the USTs associated with Buildings 100, 115, 120, and 130. The Regional Water Quality Board reviewed documentation on the removal of the USTs from Buildings 100, 105, 110, 115, 120, and 130 and concurred no further action was required to address these sites (California Regional Water Quality Control Board 1995).

A 50,000-gallon fiberglass UST was installed in 1975 to provide an emergency heating oil supply for Area A. After a release was detected in 1977, this UST was designated an IRP site, closed, and removed, as discussed in Section 3.1.5.4. LAAFB Environmental staff indicated that no USTs are present on Area A.

Currently, Area A maintains 6 aboveground storage tanks (ASTs) and day tanks to support diesel-fueled emergency power generators. An additional AST is maintained at Building 130 by the Aerospace Corporation for storage of non-PCB dielectric fluid which was used in a series of experiments. Aerospace Corporation staff indicated the AST is not currently in use, however, it is important to note that its secondary containment structure does not appear to have sufficient capacity to contain the entire contents of the AST.

3.1.5.3 *Treatment Systems and Components*

Treatment systems present on Area A include clarifiers, silver recovery units, and grease traps. Two clarifiers are located at Building 130, at the western and eastern ends of the building. Aerospace Corporation staff indicated that a few hundred gallons of waste are generated annually from pumping out the Building 130 eastern clarifier, which is under their management. Aerospace's procedure is to sample and analyze the accumulated sediments for metals and organic solvents, and subsequently remove the waste via vacuum truck.

The USAF Photo Shop in Building 130 uses two five-gallon silver recovery units, connected in series, to treat photoprocessing wastewater. The effluent from the silver recovery units is tested monthly, and both units are disposed as hazardous waste when testing indicates changeout is necessary. The effluent is directed to a floor drain in the Photo Shop that is connected to the sanitary sewer system.

A grease trap is located at the cafeteria ("The Club") in Building 120. Two 55-gallon drums of grease were observed on the loading dock at the time of the site visit.

3.1.5.4 Installation Restoration Program Sites

An Installation Restoration Program Phase I Records Search was conducted at LAAFB by others and identified three sites of environmental concern on Area A (ESE 1985). The sites of concern are illustrated in Figure 3-2 and their status is summarized as follows:

<u>Building 130 Neutralization Basin (WP-16)</u>

Wastewater from metal electroplating and photographic processing operations, conducted at Area A prior to USAF ownership, was neutralized in a basin located near the northwestern corner of Building 130 prior to discharge to the sanitary sewer. Since the basin was characterized as a potential source of heavy metal and cyanide contamination,

it was slated for excavation and disposal (Martin Marietta 1992a). During June through July 1993, RESNA Industries Inc. removed and disposed of all underground structures associated with the neutralization basin (Woodward Clyde 1994). According to LAAFB records, a NFRAP recommendation was accepted and the site was closed on February 11, 1996.

Chemical (Pesticide) Disposal Area (SD-10)

The IRP Phase I Records Search reported that prior to 1975, pesticide-contaminated wastewater generated by rinsing pesticide application equipment was discharged to a drain in the pesticide storage area at the extreme eastern end of Area A, adjacent to the railroad tracks (SPT Co. Railroad). The drain discharged off-base to a location immediately south of the pesticide storage area. Five soil borings were advanced and sampled in the area of concern in 1989. Soil samples were collected and submitted for analysis for pesticides, PCBs, and arsenic. Detected contaminants included methoxychlor, PCBs and arsenic. The detected concentrations were below the California Total Threshold Limit Concentrations (TTLCs) and therefore, no further action was recommended (Martin Marietta 1992b). The Cal/EPA Regional Water Quality Control Board accepted the NFRAP recommendation in a correspondence dated March 3, 1998 (61 ABG/CEZV 1998b).

Gate 3 UST Site (SS/ST-11)

The Gate 3 UST was a 50,000 gallon capacity, fiberglass tank installed in 1975 to provide a 30-day emergency supply of heating oil for Area A. The tank was for storage only, and as such, was connected only to a fill and vent line. In 1977, an apparent release of 25,800 gallons was discovered. A tank inspection team from Edwards AFB visited the site in December 1977, and observed the top of the tank had been flattened and noted stress cracks. The tank was subsequently pumped out, filled with sand, and capped (Martin Marietta 1992c).

IT Corporation conducted a soil boring investigation in 1989. Soil samples were collected for laboratory analysis and three monitoring wells were constructed. Petroleum contamination was detected in the soils, but the horizontal and vertical extent was not determined. Quarterly monitoring of groundwater did not reveal contamination. The tank was removed in 1993 by RESNA Industries, Inc. Stained soil was observed in the excavation. Post-excavation sampling and analysis detected Total Petroleum Hydrocarbons-Diesel (TPH-diesel) up to 790 mg/kg. The sand fill from within the UST, which contained 1500 mg/kg TPH-diesel, was used to backfill the excavation (61 ABG/CEZV 1997).

Parsons Engineering Science, Inc. constructed an AFCEE-designed bioventing system for the former UST site in 1994. The bioventing system began operation in December 1994. In 1996, the USACE Sacramento District advanced and sampled 8 soil borings to determine the vertical extent of residual soil contamination. The investigation detected diesel contamination in the soil at concentrations ranging up to 23,000 mg/kg TPH at 40 ft. below grade. Contamination was detected at a maximum depth of 50 ft. (in the unsaturated zone), above a clay layer. According to the Decision Document report, the

first groundwater source below the site is non-potable, and the clay layer appeared to be limiting contaminant migration, the Regional Water Quality Control Board accepted a NFRAP recommendation in a correspondence dated September 26, 1996 (61 ABG/CEZV 1997).

3.1.5.5 Other Environmental Site Investigations

CTL Environmental Services conducted a subsurface soil investigation adjacent to the eastern end of Building 130 in 1990, at the request of The Aerospace Corporation. The area investigated had been utilized for hazardous materials and equipment storage for Building 130's laser research laboratories, and was slated for demolition/construction activities. The objective of the investigation was to characterize soils where construction excavation would be required. Soil borings were conducted using a hand auger and samples were collected for laboratory analysis from depths of 3, 7 and 12 ft. below ground surface. Field observations and field instrument screening did not reveal indications of petroleum hydrocarbon or volatile organic contamination during the soil boring investigation (CTL 1990).

Thirty-one soil samples were collected and analyzed for TPH, lead, chromium, mercury, fluoride, sulfate and pH. Six of the 31 samples were also analyzed for Volatile Organics, Semivolatile Organics, Acute Aquatic Toxicity, and CAM Metals. These six samples were collected from depths of 7 and 12 ft. below grade.

Low concentrations (up to 19 ug/kg) of methylene chloride, 1,1,1-trichloroethene, and 1,1,2,2-tetrachloroethane were detected in the sample from Boring No. 7 collected at 7 ft. below grade. Dimethyl disulfide was detected at 100 ug/kg in the the sample from Boring No. 8 collected at 7 ft. below grade. Tentatively identified volatile organic compounds (TICs) were also detected in samples from Borings Nos. 7, 8, 9 and 10, at concentrations up to 380 ug/kg. The report indicated the detected concentrations of volatile, semivolatile and inorganic compounds did not exceed action levels, except for surface soils adjacent to a compressor, which exhibited an elevated TPH concentration. CTL recommended the soils adjacent to the compressor (estimated at less than 1 cubic yard) be disposed as hazardous waste during the planned construction excavation activities (CTL 1990).

Mr. John Kuzmik of LAAFB Real Property indicated that a Beryllium Laboratory decontamination/decommissioning event was required at Building 130. Aerospace Corporation staff interviewed were not aware of a cleanup, however, the Real Property Accountable Record for Building 130 indicates that $50,000 was expended in 1977 to demolish the Beryllium Laboratory. No further information is available on the nature or extent of the cleanup.

3.1.6 Facility Disclosure Factor Findings

This section presents the findings for each of the facility disclosure factors: air quality, asbestos-containing materials, drinking water quality, lead-based paint, medical/biohazardous waste, ordnance, pesticides, polychlorinated biphenyls, radon, and radiological substances.

3.1.6.1 Air Quality

A database of permitted and non-permitted Air Emissions Sources was provided by LAAFB Environmental staff. Permitted sources on Area A consist of the five emergency diesel generators in Buildings 100, 105, 120 and 130 and two charbroilers in the Building 120 cafeteria. Non-permitted air emission sources on Area A consist of a propane AST used to store back-up fuel for the boilers; chillers and boilers in each building; diesel ASTs and day tanks which supply fuel for emergency generators in Buildings 100, 105, and 120; halon fire suppression systems in Buildings 100, 125 and 130; a portable CFC recovery/recycle unit stored in Building 125; a diesel generator in Building 130; and 12 laboratory vent hood emission stacks in Building 130. No information was found that would indicate these Air Emission Sources have adversely impacted the property at Area A.

3.1.6.2 Asbestos-Containing Materials

An asbestos survey was performed in June 1988 to determine the extent of asbestos containing material (ACM) in the seven Area A buildings (Gutierrez 1988). Subsequent, limited surveys have been conducted, and are recorded in a database maintained by LAAFB Environmental staff. Subsurface utility lines were not investigated as part of this study. LAAFB Environmental also provided a database of asbestos sampling conducted subsequent to the 1988 survey. A description of ACM identified in the surveys is included in the building summary sheets in Appendix A-4. Limited abatement projects have been undertaken at each of the buildings, but LAAFB Environmental staff indicated asbestos-containing materials are expected to be present in the Area A buildings.

Water and Wastewater Utilities: The Real Property Accountable Records indicate the Area A water distribution system was constructed from transite/asbestos cement piping. Civil Engineering staff indicated that only repairs and limited water pipe replacement have been conducted at Area A, therefore the majority of the distribution system is expected to consist of transite piping, as constructed. The wastewater collection system is constructed from vitrified clay pipe.

HVAC (Boilers and Chillers): The asbestos survey database indicated that ACM identified in Area A buildings included thermal system pipe insulation and boiler cladding, insulation on piping in the chiller rooms and penthouses, and chiller room holding tank insulation.

Electrical and Natural Gas Utilities: Interviews with Civil Engineering staff indicated that some asbestos-insulated conductors may be present in the high voltage systems at LAAFB. Also, Civil Engineering staff suspected that some of the piping conduits may be constructed from asbestos-containing concrete. No information was available regarding the potential presence of ACM in the natural gas distribution system.

3.1.6.3 Drinking Water Quality

Bioenvironmental Engineering staff indicated that Area A potable water is purchased from Southern California Water Company. Water sampling and analysis for coliform bacteria, pH, and chlorine is conducted at nine areas within LAAFB on a monthly basis. Water samples have also been collected from the Child Development Centers at Areas A,

B and Fort MacArthur for analysis for lead and copper. Annual reports prepared by the water supply companies are relied upon for other water quality data. No water quality problems were reported by Bioenvironmental Engineering staff.

3.1.6.4 Lead-Based Paint

LAAFB Environmental staff maintain a database of paint sampling results and lead-based paint abatement projects conducted at Area A. Painted floors, ductwork, and piping represent some of the painted elements which were found to contain lead at concentrations greater than 0.5% by weight. Abatement projects have been undertaken at Buildings 100, 105, and 130 to address lead-based paint in penthouses, ductwork, and floor coating. However, the abatement work conducted is limited and lead paint is expected to be present in the Area A buildings.

3.1.6.5 Medical/Biohazardous Waste

Site visits and interviews did not reveal the presence or generation of medical/biohazardous waste on Area A. The LAAFB clinic facilities are located on Area B and at Fort MacArthur.

3.1.6.6 Ordnance

Small caliber munitions only are likely to be present at Area A, due to their use by Security Police personnel. Site visits and interviews did not reveal indications of other ordnance storage or a history of ordnance disposal at Area A. Since the munitions mainained by Security Police are used for their intended purpose they are not considered a solid waste or hazardous waste for regulatory purposes.

3.1.6.7 Pesticides

Pesticides are routinely applied at Area A. LAAFB has a pest management program with a list of approved pesticides. Only those insecticides, herbicides, and fungicides found on the Department of Defense standardized approval list are applied. An inventory of pesticides used on base is provided in Appendix A-7.

3.1.6.8 Polychlorinated Biphenyls (PCBs)

LAAFB Environmental staff indicated all transformers currently on base contain less than 50 parts per million (ppm) PCBs. Another potential source of PCBs on the base is fluorescent light fixture ballasts. According to Base Energy Management, all Area A buildings have undergone upgrades in which potential PCB light ballast were removed and replaced with energy-efficient lighting.

3.1.6.9 Radon

Bioenvironmental Engineering staff reported that no radon surveys had been conducted on Area A by the USAF. Los Angeles County is located in an area with moderate potential for radon and an airborne radon concentration of 2-4 pCi/L may be encountered in a building without radon control (USEPA 1999).

Radon data compiled by USEPA is available for 63 sites in Los Angeles County. 98% of the sites contained radon levels below 4.0 pCi/L in the first floor and 100% of the sites contained radon levels below 4.0 pCi/L in the basement (EDR 1999).

3.1.6.10 Radiological Substances

Radioactive material is not stored or used at Area A, according to USAF Bioenvironmental and Aerospace Corporation staff. No information was obtained to suggest that radioactive materials or wastes were used or stored at Area A in the past. However, as discussed in Section 3.1.5.5, a Beryllium Laboratory decontamination/decommissioning event was required at Building 130. No further information is available on the nature and extent of the cleanup nor the use of the laboratory. If the laboratory processed beryllium metal then there is no concern for radioactive contamination because beryllium is not radioactive. However, if the laboratory processed raw beryllium ore, there is a possibility for radioactive contamination due to the fact that uranium is a major mineral accessory of beryllium ore and uranium is radioactive. Also, if the laboratory used man-made radioactive beryllium, there is a possibility of radioactive contamination.

3.1.7 Conservation Disclosure Factor Findings

Conservation disclosure factors include cultural resources, biological resources, and physiographic conditions. Information pertaining to these factors is included in the subsections that follow.

3.1.7.1 Cultural Resources

Cultural resources are prehistoric and historic sites, structures, artifacts, or other physical evidence of human activities considered important to a culture, community, or religion. The State Office of Historic Preservation and the Advisory Council on Historical Preservation are two agencies that stipulate processes for compliance with laws and regulations regarding cultural resources. The primary law governing cultural resources is the National Historic Preservation Act (NHPA). Among other things, NHPA addresses the protection of historic and cultural properties.

There are no buildings listed in the National Register of Historic Places within a one-mile radius of Area A (EDR 1999). A Stage 1A archaeological study would be required to determine the existence of other cultural resources. At this time, there is no information regarding other cultural resources at Area A.

3.1.7.2 Biological Resources

Biological resources include threatened or endangered species, sensitive habitats and ecosystems, wetlands, timberlands, and other resources that provide biodiversity on land and in our oceans and rivers. A search of federal and state databases yielded no officially designated wilderness areas, wildlife preserves, sanctuaries, refuges, wild and scenic rivers or other officially designated natural areas within a one mile radius of Area A (EDR 1999). Nor did the search identify any threatened or endangered species or critical habitats with a ½ mile radius. A wetland, however, was identified approximately two

miles south of Area A. The wetland is approximately 1/8 mile north of Manhattan Beach Blvd, west of North Aviation Blvd, and east of Sepulveda Blvd (refer to Appendix F). Area A is a developed site which consists primarily of paved areas and buildings. Based on the site visit, it appears to lack hydrophytic vegetation, hydric soils, and wetland hydrology.

3.1.7.3 Physiographic Conditions

Physiographic conditions discussed in this section include flood zones, landslides, seismic conditions, and water rights.

3.1.7.3.1 Flood Zone

Area A does not lie within a flood zone. However, a 500-year floodplain lies approximately 1-½ miles east of Area A and another lies approximately 1-mile southeast (refer to Appendix F).

3.1.7.3.2 Landslides

Landslides are a physiographic concern in Los Angeles County. Landslides greater than 5 acres have not occurred within a 1-mile radius of Area A (Occidental College 1999).

3.1.7.3.3 Seismic Conditions

Seismic conditions are a concern for Los Angeles County and Area A. Active faults known to exist in the vicinity include the San Andreas, Newport-Inglewood, San Fernando, Sierra Madre, and Verdugo (TRC 1999). Visible fault lines are not present within a two-mile radius of Area A, however visible fault lines do exist within approximately 3 miles of Area A (EDR 1999). The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The purpose of the Act is to prevent construction of buildings used for human occupancy on the surface trace of faults. The City of El Segundo is not located within an Alquist-Priolo Earthquake Fault Zone (CA Dept of Cons. 2000a). The Alquist-Priolo Earthquake Fault Zoning Act only addresses surface fault ruptures and does not address other earthquake hazards. However, the Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including seismically induced landslides and liquefaction. A review of the Seismic Hazard Zones Map for Inglewood Quadrangle (the quadrangle in which Area A is located) indicates that Area A is not situated within an area of concern for liquefaction or seismically induced landslides (CA Dept. of Cons. 2000b).

3.1.7.3.4 Water Rights

Surface water is not present at Area A. LAAFB does not extract ground water; overlying land owners in most areas of California may extract ground water and put it to beneficial use. California does not have a permit process for regulation of ground water use but in several basins ground water use is subject to regulation (State Water Resources Control Board 1999). The Los Angeles Regional Water Quality Control Board has a *Basin Plan*

designed to preserve and enhance water quality and protect the beneficial uses of all regional waters (RWQCB 1999).

3.2 ADJACENT PROPERTY FINDINGS

The adjacent properties to the north of Area A are occupied by a Lockheed Martin facility, a Big 5 retail store, and other commercial properties. A freeway ramp and a Ramada Inn occupy the adjacent properties to the east. A railroad and residential properties are adjacent to Area A's southern property boundary. Xerox, Inc., Catalina Pacific Concrete, and Electronic Enclosures, Inc. occupy the adjacent properties to the west of Area A.

An Environmental Data Resources (EDR), Inc. database report was obtained for Area A. The report consists of an information search of federal and state environmental regulatory databases, arranged according to various search radii (listed within the report by database) centered on the junction of El Segundo Boulevard and Aviation Boulevard.

The EDR report revealed the presence of 11 Cal-Sites properties within 2 miles of Area A. Cal-Sites properties include both known and potential hazardous substance sites. 10 of the sites were referred to other agencies, were satisfactorily remediated, required no further action, or were delisted. The following sites required action:

- El Segundo Plaza, 5001-5127 W. El Segundo, had confirmed groundwater contamination and a Preliminary Endangerment Assessment Report was required
- One Notify 65 site, Allied Chemical Corp., 850 S. Sepulveda Blvd., was located between 1-2 miles from Area A. Notify 65 records are entered for releases that could impact drinking water. No further information was available regarding the status of the release, however, Allied Chemical Corp. is also a CERCLIS site, a UST site, and a RCRA large quantity generator.
- Twenty-five California Hazardous Material Incident Report System (CHMIRS) sites were found within 1.5 miles of Area A. Nine CHMIRS sites involved releases of acids and caustics such as sulfuric acid, nitric acid, hydrochloric acid, and sodium hydroxide. Ground and air were listed as affected media for some of these incidents, and three of the incidents occurred at the same site on the same date (2383 Utah). Three CHMIRS sites consisted of propane and chlorine gas air releases. Seven CHMIRS sites involved crude oil, cutting oil, lacquer thinner, and solvents. Only the cutting oil spill (2043 East Mariposa Avenue) listed ground contamination, and involved 25 lbs. of released material. The remaining 6 CHMIR sites involved releases of: PCBs at 200 N. Douglas (LAAFB Area B), resin on I-405, adolene at 401 Lapham Street Building 923, radioactive amerilium-beryllium 241 at 6041 W. Imperial Highway, radioactive material at 5721 W. Imperial Highway, and latex paint at a residential property. None of these 6 sites indicated residual environmental contamination.

The Cortese database identifies contaminated drinking water wells, hazardous substance sites, abandoned toxic material sites, reportable UST releases, and solid waste facilities with known contaminant migration. Twenty-nine Cortese sites were found within 1.5

miles of Area A. Two of the sites were LAAFB and The Aerospace Corporation, 2350 E. El Segundo Blvd. The site of concern at LAAFB was a leaking gasoline UST at Whites Point; remedial action was completed or deemed unnecessary. The Aerospace Corporation reported the discovery of a diesel release during a UST closure on January 23, 1986. No information, other than the facility name and address, was available for 8 of the Cortese sites. Sixteen of the remaining sites were listed as leaking UST sites.

Four of the leaking UST sites were categorized as "remedial action completed or deemed unnecessary" and 1 site was apparently included due to a false release report from a faulty tank sensor. The following sites required further action:

- Thrifty Oil No. 253, 5038 W. El Segundo Blvd., no action taken by owner following initial report of release during tank closure on October 5, 1987
- Hawthorne Builders Supply, 12923 Inglewood Ave., preliminary site assessment work plan submitted, soil removal required as of 1995
- Arco No. 6164, 5350 Rosecrans, ongoing groundwater monitoring, MTBE contamination, plume not yet defined
- Blackmore Associates, 700 Airport, no action taken by owner following initial report of release during tank closure on June 19, 1986
- City of El Segundo, 150 Illinois St., no action taken by owner following initial report of release
- Hughes Aircraft, 1925 E. Maple Ave., isopropyl alcohol release, preliminary site assessment work plan submitted as of 1994
- J&D Automotive, 5301 146th, remedial action (soil removal) in progress as of 1993
- International Rectifier Corp., 233 Kansas St., solvent tank release, preliminary assessment underway as of 1994
- International Rectifier Corp., 233 Kansas St., wastewater release, remedial action in progress as of 1990
- So. Bay Petroleum, 5899 W. Imperial Highway, no action taken by owner following initial report of release, tank closed on October 24, 1986
- Garrett Airesearch, 6201 W. Imperial Highway, no action taken by owner following initial report of release, some record details coincide with So. Bay Petroleum – may be same release

The remaining 3 Cortese sites were HMS sites and no information on was provided regarding hazardous material releases.

One CERCLIS site, H. Kramer & Co. at 1 Chapman Way, was found within 1 mile of Area A. The site is described as an abandoned foundry and landfill with heavy metal contamination. A PRP-led removal was completed in 1990.

Six RCRA Corrective Action sites (CORRACTS sites) were found within 1.5 miles of Area A. The following summarizes the status of each site:

- Rockwell International, 815 Lapham St., RFA completed, one violation record
- Northrop Corp. Aircraft Division, 800 N. Douglas, 9 violation records (also a CERCLIS NFRAP site)

- Northrop Corp. Aircraft Division, 2043 E. Mariposa Ave., two violation records (also a CERCLIS NFRAP site)
- Raytheon Systems Co., 2000 E. El Segundo Blvd., 10 violation records (also a CERCLIS NFRAP site)
- Hughes Aircraft Co. S&CG, 1920 E. Imperial Highway, RFA completed, 7 violation records (also a CERCLIS NFRAP site)
- Northrop Corp. Aircraft Division, 14525 Oceangate, low CORRACTS priority – no further status information available (also a CERCLIS NFRAP site)

A search of Leaking UST Incident Reports revealed 17 sites within 1 mile of Area A. Six of these sites were also included in the Cortese database and were discussed above. Ten of the leaking UST sites were categorized as "remedial action completed or deemed unnecessary." The following site required further action:

- United Airline Flight Kitchen, 444 N. Nash St., diesel release discovered during tank closure on December 17, 1990, affected media soil only, remedial action in progress

The UST database indicated there are 25 registered UST sites within approximately 0.75 miles of Area A. At least six of these UST sites (including LAAFB) were also listed in the Cortese or the Leaking UST database. The CA FID database indicated an additional UST site within 0.75 miles of Area A. No information is available regarding tank integrity in the UST database.

Review of the Resource Conservation and Recovery Information System (RCRIS) database revealed there are 4 Large Quantity Generator (RCRIS-LQG) sites and 18 Small Quantity Generator (RCRIS-SQG) sites within approximately 0.75 miles of Area A. The LQG sites included adjacent property Electronic Enclosures Inc. The HAZNET entries for Electronic Enclosures Inc. indicated they generated the following wastes: paint sludges, unspecified organic liquids, organic solids, oily wastes. According to HAZNET, 38 sites (including LAAFB) within approximately 0.75 miles of Area A have manifested HW for disposal.

The California Regional Water Quality Board's CA SLIC database contained two sites within one mile of Area A: H. Kramer & Co. and El Segundo Plaza. These sites were discussed above in the Cortese and Cal-Sites summaries, respectively.
Additional sites were included in the EDR report that could not be plotted by the report preparer due to incomplete location information. The 45 unplottable sites consisted of the following categories: 24 HAZNET/RCRIS sites, 7 Cortese and/or Leaking UST sites, 3 UST sites, 6 CA SLIC sites (including LAAFB), 1 SWF/LF site, 2 CA FID sites (including Building 80 at Lawndale Annex), 1 ERNS site, and 1 CA BEP site (Fort MacArthur).

No information was found which indicated an adverse environmental impact to Area A from adjacent or vicinity properties of concern. However, there is potential for Area A to have been or be adversely affected by adjacent properties. A copy of the EDR report is contained in Appendix F.

3.3 SUBJECT PROPERTY CATEGORIZATION

Based on available information, the subject property and utility corridors are characterized and coded according to seven categories. Explanations of the seven categories and the findings for Area A are provided below (Figure 3-3).

Category 1: Areas where no release or disposal of hazardous substances or petroleum substances has occurred (including no migration of these substances from adjacent areas). The majority of Area A, including Buildings 100, 115, and 120, and associated utility corridors were classified as Category 1.

Category 2: Areas where only release or disposal of petroleum substances has occurred. Areas near Buildings 105, 110, and 125, and the Gate 3 UST site and the associated utility corridors were classified as Category 2.

Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require removal or remedial response. The Chemical (Pesticide) Disposal Area (SD-10) and Building 130 and their associated utility corridors were classified as Category 3 locations.

Category 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions have been taken. The Building 130 Neutralization Basin (WP-16) area and the associated utility corridors were classified as Category 4.

Category 5: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions are underway, but not yet taken. No locations within Area A were classified as Category 5.

Category 6: Areas where release, disposal, and/or migration of hazardous substances has occurred, but remedial actions have not been implemented. No locations within Area A were classified as Category 6.

Category 7: Areas that have not been evaluated or require additional evaluation. No locations within Area A were classified as Category 7.

3.4 REFERENCES

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4.1 SUBJECT PROPERTY FINDINGS

This section of the EBS includes the findings of the records review, visual site surveys, and base personnel interviews conducted for the subject properties at Area B, LAAFB.

4.1.1 History and Current Usage

Area B is located at the northwest corner of El Segundo Boulevard and Aviation Boulevard in the City of El Segundo, California. The area encompasses 53.70 acres. Figure 4-1 illustrates the location of Area B.

4.1.1.1 Chain of Title Review

Copies of Area B real estate files, including some recorded land title records, are provided in Appendix B-1. The following is a list of utility easements in place at Area B (LAAFB 1993).

- Southern California Edison Co. has an easement to provide electric service to Area B. The easement was granted in 1942 for an indefinite term.
- The City of El Segundo has a 0.30-acre easement to provide potable water and a 0.60-acre easement to provide wastewater services to Area B. The easements were granted in 1959 and are to be renewed in 2009.
- Southern California Gas Co. has a 0.60-acre easement to provide natural gas to Area B. The easement was granted in 1959 and is to be renewed in 2009.

4.1.1.2 Past Usage

The land that is now known as Area B was acquired by the U.S. Navy in 1942 and used as a Naval Weapons Industrial Reserve Plant (Douglas Aircraft Company). In 1962, the Air Force obtained a permit to use four buildings in the Navy-owned site. Those buildings and the associated 52.28 acres of land were transferred to the Air Force in 1963. In 1968, an additional 1.42 acres at the Douglas site were transferred from the Navy to the Air Force (ESE 1985).

Aerial photographs were reviewed for evidence of prior land use and to identify signs of potential environmental concerns on the subject and adjacent properties. The aerial photographs presented in Appendix B-2 are from 1927, 1941, 1955, 1956, 1963, 1974, 1982, and 1994.

The 1927 and 1941 aerial photos indicate that prior to Navy ownership, Area B was undeveloped. There appears to be a structure on Area B in the 1941 photo that is not present in the 1927 photo. The structure's use cannot be determined from the photo. Properties adjacent to Area B appear to be undeveloped in the 1927 and 1941 photos except for a property to the east of Area B that appears to be residential.

The 1955 and 1956 photos illustrate the Douglas Aircraft Company's presence on the subject property. Several of the buildings currently on-site are present in these photos. The photos also depict aircraft on Area B. Three buildings currently on-site (240, 242, and 244) were used by Douglas Aircraft Company to assemble Douglas A-4D aircraft. It is not clear how the aircraft were transported from Area B after assembly, because flight lines are not visible in the photographs.

The 1950's and 1960's aerials also depict buildings that are no longer present at Area B. Former buildings that may be of environmental concern are Building 217, Building 218, Building 221, a bunker east of Building 221, and Building 223. These buildings are discussed further in Section 4.1.3.

4.1.1.3 Current Usage

Los Angeles Air Force Base became the headquarters of the Space Division in October 1979. Area B consists of 30 buildings and is currently used to provide logistic, administrative, transportation, and medical support for all organizations and personnel assigned or attached to the installation.

4.1.2 Environmental Setting

A description of the general environmental setting of Area B is summarized in the following sections.

4.1.2.1 Topography and Drainage Patterns

Area B has a relatively flat topography with surface elevations ranging from 92 feet above mean sea level (amsl) along the southern edge of the property to 98 feet amsl along the northern edge. The land on Area B is used primarily for buildings and asphalt-paved vehicle parking. Due to the small amount of natural soils on Area B, there is very little infiltration of rainfall. The majority of precipitation leaves the installation via evaporation or in the form of stormwater runoff. The stormwater runoff is collected in open catch basins and routed through an underground system of 4-inch to 36-inch vitrified clay, cast iron, or reinforced concrete pipes. The storm drainage system map is provided in Appendix B-5. The drainage system is connected to the Los Angeles County Flood Control District storm drain system (ESE 1985).

4.1.2.2 Geology and Hydrogeology

LAAFB lies within the western portion of the Los Angeles Basin, a topographic lowland plain. Unconsolidated and indurated sediments, ranging in age from Jurassic to Recent, characterize the stratigraphy of the Los Angeles Basin. The youngest deposits underlying Area B consist of a thin veneer of late Pleistocene quartz dune sand. These deposits are mapped as the Older Dune Sand deposits and consist of fine-to-medium grained sands with minor amounts of gravel, sandy silt, and clay. The Older Dune Sand ranges up to 200 ft. in thickness.

The hydrogeologic units in the subsurface at Area B are the San Pedro Formation, the Lakewood Formation, and the Older Dune Sand unit. The Older Dune Sand is the

uppermost water-bearing unit underlying Area B. It occurs as a semi-perched, unconfined aquifer, with groundwater flow generally in an east-to-west direction, toward the Pacific Ocean (ESE 1985). LAAFB Environmental staff indicated the depth to the water table at Area B is approximately 90 feet below grade.

4.1.3 Buildings Overview

Currently, Area B consists of 30 buildings and parking areas. Building uses include: administrative, medical, child development center, engineering, storage, sales, retail gas station, and vehicle care and maintenance. A summary for each building, based on site visits and a records search, is provided in Appendix B-3. The summary contains available information including: construction date, construction materials, current building use, prior building uses, utility information, and potential environmental concerns.

Several buildings at Area B have been demolished within the past ten years. Former buildings include Buildings 217, 218, 221, and 223. Real Property records indicate that Buildings 217 and 218 were both used by LAAFB to store hazardous substances. Building 223 was used by LAAFB as a Civil Engineering Paint Shop. Records indicate that Building 221 was built in 1950 and used by the Navy to store aircraft munitions. After transfer, LAAFB used the building for storage.

4.1.4 Utility Overview

This section presents an overview of the utilities and heating and cooling systems at Area B. A summary of the utility information is presented in Appendix B-4. The utilities discussed include: electrical, water, wastewater, and natural gas. Base Civil Engineering is responsible for the overall utility management. Drawings of each utility are presented in Appendix B-5.

4.1.4.1 Electrical Utility System

Southern California Edison Company supplies Area B with electricity. The electrical utility drawing in Appendix B-5 depicts Area B's electrical distribution system. Southern California Edison (SCE) has one main 3750 KVA sub-station located north of Building 240 that it owns and maintains. Beyond the main SCE sub-station, ownership and maintenance responsibility of the electrical distribution system lies with LAAFB.

According to Real Property Accountable Records, the Area B distribution system consists of approximately 8,069 linear feet of underground distribution line. The lines are buried 4 to 6 feet below ground surface. SCE records indicate that a 480-volt service voltage is provided to Building 251, a 480-volt service voltage to Building 212, and a 16,000-volt voltage serves the remaining portions of Area B. The cumulative 1999 average monthly consumption at Area B was approximately 552,000 kWh. The maximum monthly demand was 1,171 kW. This demand occurred in August 1999 at the main service area (SCE 2000).

According to Air Emission Sources reports provided by LAAFB Environmental, five stand-by generators provide back-up power for Area B. Four of the generators run on diesel fuel and the fifth runs on gasoline. One of the five generators, a 6-cylinder diesel generator in Building 229, is a permitted air emission source (LAAFB 1999).

4.1.4.2 Water Utility System

Area B purchases potable water from the City of El Segundo, CA. The City purchases water wholesale from the Metropolitan Water District of Southern California (MWD). MWD is a regional water agency that imports water from the Northern California Bay-Delta via the California Aqueduct and the Colorado River via the Colorado River Aqueduct. MWD then sells and delivers the water on a wholesale basis to the coastal plain of Southern California (MWD 1999).

The water distribution system on Area B was installed in 1942 during construction of the Navy-owned Douglas Aircraft Company. Potable water is supplied through two metered connections (Appendix B-5). One metered connection is located in a vault west of Building 212 near Douglas Street and the other is located near the intersection of El Segundo Blvd. and Challenger Way. The cumulative (both meters) 1999 average monthly water consumption was approximately 782,900 gallons (City of El Segundo Water 2000). The pressure of the water entering Area B is approximately 90 pounds per square inch. Water is distributed throughout Area B through underground cast iron and ductile iron pipelines ranging from 1 to 10 inches in diameter. Water utility lines are located approximately 4 to 6 feet below ground surface. The water utility drawing in Appendix B-5 depicts Area B's water distribution system.

LAAFB owns and maintains the water distribution lines in Area B. Area B has an estimated 4,215 linear feet of distribution pipe. The Real Property Accountable Record for the water distribution mains indicates that mains were replaced in October of 1984. The record does not indicate if the mains replaced during the project were for part of the distribution system or if the entire distribution system was replaced. However, the cost of the replacement project was $298,760. The project cost suggests that only part of the system was replaced.

4.1.4.3 Wastewater System

The City of El Segundo provides wastewater service to Area B. The wastewater system discharges via gravity to the Los Angeles County Sanitation District sewage system at two unmetered points to the east of the base on Columbia Avenue/Lapham Street. The wastewater infrastructure on Area B was installed in 1942 during construction of the Douglas Aircraft Company. The domestic sewage is collected via underground vitrified clay and cast iron pipelines ranging from 2 to 10 inches in diameter. The wastewater utility lines are buried approximately 4 to 6 feet below grade and total approximately 7,438 linear feet. The wastewater utility drawing in Appendix B-5 depicts Area B's wastewater system.

4.1.4.4 Natural Gas System

Southern California Gas Company supplies natural gas to Area B. The main metered connection is located at the southern property line near El Segundo Boulevard. The remaining four meters are located at Building 212, Building 208, Building 229, and Building 205. Building 205 is no longer in use and the meter is inactive.

Natural gas enters the main El Segundo connection at a pressure of 140 psig. However, before entering Area B, the pressure is reduced to 60 psig by a gas-company owned regulator. As the gas enters LAAFB property, it is directed to a utility vault where the metering station measures the quantity and a pressure reducing station further regulates the gas pressure by reducing it from 60 psig to 3 psig. The cumulative (all meters) average monthly natural gas usage for the first eleven months of 1999 was approximately 15,839 therms (SCG 2000). The natural gas utility drawing in Appendix B-5 depicts Area B's natural gas distribution system.

Natural gas is distributed throughout Area B via underground gas lines ranging in diameter from ¾ to 4 inches. The distribution system consists of 2,457 linear feet of gas mains. The mains are usually positioned 4 to 6 feet below ground surface, however in some locations, the lines are only 8 inches below the concrete and the concrete is four inches thick. It is not known if any of the lines are cathodically protected. LAAFB owns and maintains the gas distribution lines on-site.

4.1.4.5 HVAC (Boilers and Chillers)

Interviews with Civil Engineering personnel revealed that changes are currently underway for several buildings in Area B, especially the 240-series buildings. The building summaries provided in Appendix B-3 contain available information regarding heating and cooling for each individual building. Those changes will be documented in future drafts of this report.

4.1.5 Property Categorization Factor Findings

This section presents the property categorization factor findings based on hazardous substances, petroleum substances, treatment systems, and Installation Restoration Program (IRP) sites.

4.1.5.1 Hazardous Substances

Hazardous substances include both hazardous materials and hazardous wastes.

4.1.5.1.1 Hazardous Materials

Hazardous materials are products that may pose a physical threat or hazard to humans or the environment. Hazardous materials are stored in various locations throughout Area B. Common hazardous materials found at Area B include combustible liquids, corrosive liquids, and compressed gases. Detailed information regarding hazardous materials observed during the site visit is noted on the building summaries provided in Appendix B-3.

A subsurface soil investigation was conducted in the vicinity of the Building 215 seepage pit. Hazardous substances were discovered. This site is discussed further in Section 4.1.5.4.

4.1.5.1.2 Hazardous Waste

LAAFB has implemented a hazardous waste generation and management plan. Area B is designated as a RCRA large quantity generator. Hazardous waste generated throughout Area B is transported to and stored at several different accumulation areas prior to off-site disposal. A list of these accumulation areas along with the waste stream inventory is presented in Table 4-1. After initial accumulation, hazardous waste is shipped from the accumulation areas to off-base treatment, storage, and disposal facilities.

Table 4-1: Hazardous Waste Locations and Descriptions (LAAFB 1999)

Accumulation Area	Waste Description	Size
Building 200 (inside)		
	Lead Foil	5-gallon
	Silver Amalgam	5-gallon
Building 215/213 (inside)		
	Aerosol Spray Cans	55-gallon
	Crushed, Drained Oil Filters	55-gallon
	Oil-Contaminated Dry Sweep	55-gallon
	Oily Rags	55-gallon
	Transmission Fluid	55-gallon
	Used Antifreeze	55-gallon
	Waste Oil (AST)	500-gallon (AST), 55-gallon
	Waste Oil From Crushed Filters	55-gallon
Building 229 (inside)		
	Compressor Oil	55-gallon
	Oily Rags	5-gallon, 55-gallon
	PCB Ballasts	55-gallon
	Lead/Acid Batteries	55-gallon
Building 235 (outside)		
	Crushed Drained Oil Filters	55-gallon
	Brake Parts Cleaner	30-gallon, 55-gallon
	Lead/Acid Batteries	55-gallon
	Oily Rags	5-gallon
	Used Antifreeze	55-gallon
	Waste Aerosol Cans	55-gallon

	Waste Oil	500-gallon (AST), 10-gallon, 2-gallon
Building 240 (outside)		
	Toner Waste	30-gallon
	Compressor Oil	5-gallon
	Used Antifreeze	55-gallon
	PCB Ballasts	30-gallon
	Alkaline Waste Batteries	5-gallon
	NiCad Waste Batteries	5-gallon
	Car Wax	55-gallon

4.1.5.2 Petroleum Substances/Storage Tanks

According to a Fuel Oil Storage Tanks Real Property Inventory (LAAFB 1979), six fuel oil underground storage tanks (USTs) were in use at Area B in 1979. The tanks included three USTs west of Building 200 (1,500, 2,000, and 3,500 gallons), two USTs east of Building 220 (14,500 and 2,000 gallons), and one 10,000 gallon UST west of Building 241. Real Property records also indicate that 2-10,000 gallon USTs were located south of Building 215 and 3-10,000 gallon USTs were located south of Building 235 (Retail Gas Station), one of which contained leaded gasoline.

Environmental records from February 1997 (LAAFB 1997) indicate that three tanks west of Building 200 stored heating oil and were in operation from 1959 to 1993. The tank sizes recorded by Environmental include two 3,000-gallon tanks and one 5,000-gallon tank. They were removed in July of 1993, at which time it was determined that they were constructed of steel without secondary containment. Records state that samples were taken and it was determined that no further action was needed.

Environmental records indicate that the two tanks east of Building 220 both contained diesel fuel. They were in operation from 1958 to 1990 and were removed in 1990. Records state that no contamination was found. The tanks were constructed of steel without secondary containment. A third and smaller tank (50 gallons) that contained gasoline was also removed from the vicinity of Building 220 in 1990. Records state that samples were taken and contamination was discovered. After further analysis in 1992, it was determined that no further action was needed.

Two tanks were removed from the vicinity of Building 241. The 10,000-gallon UST west of the building stored heating oil from the mid 1950's to 1993. It was removed in 1993. Records state that samples were taken and contamination was identified. In 1990, a 150-gallon gasoline UST was removed, samples were taken, and contamination was found. Both tanks were constructed of steel without secondary containment. Please see Section 4.1.5.4 for further information regarding these tanks.

A 3,800-gallon concrete UST west of Building 229 contained heating oil and was in use from the mid 1950's to 1993. The tank was removed in 1993 and records state that no contamination was found. The three tanks south of Building 235 (Retail Gas Station) were in use from the mid 1960's to 1991. They were removed in 1991. Samples were taken and contamination was identified. The tanks contained leaded and unleaded gasoline. Please see section 4.1.5.5 for further information regarding Building 235's tanks.

Records indicate that three USTs and four ASTs are currently located within Area B. The three USTs south of Building 235 were replaced with three 10,000-gallon steel USTs with secondary containment and located east of the building. In addition to the three USTs, a 500-gallon AST that stores waste oil is housed at Building 235.

Other ASTs include a 500-gallon AST for accumulation of waste oil at Building 215, a 30-gallon tank that stores gasoline for a standby-generator at Building 241, and an 18,000-gallon propane tank located east of Building 251 and used for back-up fuel for Area B's boilers.

4.1.5.3 Treatment Systems and Components

Treatment systems present at Area B include vapor extraction systems and grease traps.

Two vapor extraction treatment systems are in operation at Building 235, the Retail Gas Station. Three new 10,000-gallon USTs were installed east of the building in 1991. The three USTs are equipped with a Phase I vapor extraction system and the eighteen dispenser nozzles at the station are equipped with a Phase II vapor extraction system. Both systems are permitted air emission sources.

A grease trap is located at Building 251, the Commissary.

4.1.5.4 Installation Restoration Program Sites

An Installation Restoration Program Phase I Records Search was conducted at LAAFB by others and identified three sites of environmental concern on Area B (ESE 1985). The sites of concern are illustrated in Figure 4-2 and their status is summarized as follows:

<u>Stormwater Drainage Disposal Sites (SD-2 and SD-3)</u>

An Installation Restoration Program (IRP) Phase I Records Search was conducted at LAAFB by Environmental Science and Engineering, Inc. and identified two sites of environmental concern on Area B (ESE 1985). Both sites were stormwater drainage disposal sites. In both cases it was determined that there was no potential for residual contamination and Phase II studies were not recommended.

<u>Building 200 – Underground Storage Tank Site (ST06)</u>

During the 1985 Phase I investigation, three USTs (discussed in Section 4.1.5.2) were discovered adjacent to the southwest corner of Building 200. The three tanks (5,000-gallon, 3,000-gallon, and 3,000-gallon) were installed in 1959 and were part of the old

Douglas Aircraft Company facility. All three tanks were removed in 1993 and the surrounding soils excavated. The Los Angeles Region Water Quality Control Board (RWQCB) required that additional sampling be performed. Four soil borings were advanced in the excavation areas with depths ranging from 25.7 to 26.2 feet. The soil samples were screened with a photoionization detector (PID) in the field and three samples per boring were selected for analysis based on PID readings, odor and soil discoloration. The chosen samples were tested for total recoverable petroleum hydrocarbons (TRPH) using Modified Method 8015 and benzene, toluene, ethylbenzene, and xylene (BTEX) using Method 8020. A single composite sample produced using one soil sample per boring was tested for metals via Method 6010. No diesel or BTEX compounds were detected and the concentrations of metals detected in the composite soil sample were below the Total Threshold Limit Concentration values specified in the California Code of Regulations. Method 8015 detected two unknown hydrocarbons at 8.7 and 1.6 mg/kg. No further action was recommended for the site (61 ABG/CEZV 1996). The California Regional Water Quality Control Board concurred with the no further action recommendation in a letter dated January 12, 1996 (RWQCB 1996).

Building 220 – Underground Storage Tank Site (ST05)

The Phase I investigation identified three USTs adjacent to Building 220 (discussed in Section 4.1.5.2). The tanks consisted of a 50-gallon gasoline tank, a 2,000-gallon diesel tank and a 15,000-gallon diesel tank. The tanks were removed in 1990. The 2,000-gallon tank had several holes in it and lab analysis of soil samples revealed up to 6,400 mg/kg TRPH. Stockpiled soil was returned to the excavation. In July of 1992 four borings were advanced to investigate the extent of contamination. Sample analysis did not reveal BTEX and TRPH above 100 ppm. No further action was recommended for the site (61 ABG/CEZV 1995). The California Regional Water Quality Control Board concurred with the no further action recommendation in a letter dated January 4, 1996 (RWQCB 1996).

Building 241 – Underground Storage Tank Site (OT03)

The Phase I investigation also led to the discovery of the 150-gallon UST site at Building 241. The tank contained gasoline used for back-up fuel for equipment in Building 241's boiler room. The tank was removed in 1990 by Tetra Tech and was in poor condition. In addition, the fill pipe was disconnected. The soil samples collected during the removal indicated the presence of TRPH and BTEX contamination. Mittlehauser Corporation conducted a soil investigation at the site in July 1992. During the Mittelhauser investigation, Engineering-Science Inc installed a bioventing pilot treatment system. Parsons Engineering Science conducted closure sampling at the site in January of 1996. Soil samples were collected at five, seven, and nine feet below ground surface. All laboratory test results for BTEX (Method 8020) and total volatile petroleum hydrocarbons (Method 8015) were non-detect. Lead (Method 7421) was detected at concentrations ranging from 11.8 mg/kg to 15.2 mg/kg. The detected levels for lead were below the California Modified Preliminary Remediaton Guideline. No further action was recommended for the site (61 ABG/CEZV 1996). The California Regional Water Quality Control Board concurred with the no further action recommendation in a letter dated October 28, 1996 (RWQCB 1996).

Miscellaneous Underground Storage Structures (ST40)

IRP Site ST40 involves miscellaneous underground storage structures on-site. The structures consist of four clarifiers and one concrete UST that originally stored heating oil. The clarifiers were located adjacent to Buildings 219, 229, 240 and 244. They were used to separate sediments from the building drainage systems. Mittelhauser Corporation was contracted to close the clarifiers. The LAAFB was unable to obtain closure requirements from the Los Angeles Department of Water and Power or the Los Angeles County Sanitation District. In 1992, the clarifiers were closed in place in accordance with the City of El Segundo's Building and Safety Department Requirements. The City's requirements involved removing pipe elbows on the inlet and outlet sides, breaking a hole in the bottom of each clarifier, capping the pipes, and filling the clarifiers with concrete. Soil borings were advanced adjacent to each clarifier to a depth of 40 feet below ground surface. Soil samples analyzed for petroleum, BTEX, and metals did not contain elevated concentrations. The standing water in the clarifiers was sampled and contamination was not detected. No further action was recommended for the site (61 ABG/CEZV, 1997) and LAAFB records indicate that the site was closed in September 1997.

A 3,800-gallon concrete UST west of Building 229 was removed by DW Environmental in July 1993. Soil sampling around the tank bed indicated that the tank had leaked. The tank originally stored diesel fuel. Approximately 60 cubic yards of soil was removed to a depth of 20 feet below ground surface. The excavated soil was transported off-site. Following excavation, samples were taken and analyzed for TRPH, halogenated and aromatic volatile organics, and metals. The soil surrounding the former tank bed was impacted but the results were below the soil screening level of 1,000 ppm established by RWQCB. No further action was recommended for the site (61 ABG/CEZV, 1997). The RWQCB concurred with the no further action recommendation in a letter dated May 29, 1997.

Building 208 – Child Development Center (SS41)

Building 208, currently occupied by the Child Development Center (CDC), was known as the Slosh Test Building from 1954 to 1960. During that time the building was used to clean aircraft parts. The building was unused between 1960 and 1964 and then in 1964 it was used as a warehouse. The building was used as a warehouse until 1984. From 1984-1990, the building was the NCO Club. After 1990, it became the CDC. In February 1995, an awning was added to the structure along the western and southern exposures. Petroleum odors were detected in each of the holes excavated for the seven beams that support the awning. Samples from the stockpiled soil were analyzed and 130-1200 ppm TRPH was detected in addition to 13.5-75 ppm diesel range organics (DRO).

Seven soil borings were advanced along the perimeter of the CDC and five samples from each boring were submitted for analysis for TPH via EPA Method 8015, volatile organic compounds (8260), and semi-volatile organic compounds (8270). Selected samples were analyzed for metals. The analytical results indicated low concentrations of hydrocarbons that were not in the range for diesel fuel or motor oil. The only other contaminants detected were low concentrations of benzo(a)pyrene, phenanthracene and napthalene in one boring at a depth of 1 foot. Due to the presence of an asphalt cap, no further action was recommended and accepted by California EPA's Department of Toxic Substances Control in a letter dated October 17, 1997.

Building 215 - Auto Hobby Shop Seepage Pit Site (WP15)

The seepage pit was connected to a triple-cell clarifier (oil/water separater) at the northeastern corner of the Auto Hobby Shop. The pit was constructed of concrete block with mortarless vertical joints. The clarifier received wastes from the floor drain and discharged them into the seepage pit prior to being connected to the sanitary sewer in 1976. In addition the discharge from a car wash, a 50-gallon solvent tank and a 300-gallon carbon removing compound dip tank drained into the clarifier and seepage pit. In 1985, the clarifer pump failed and wastewater discharged to the seepage pit. In September 1986, approximately 800 gallons of water, solvents, and oil were pumped from the pit and disposed of off-site (LAAFB 1997).

A field investigation was conducted in 1988 by IT Corporation to assess the extent of contamination. Three monitoring wells were installed and soil and groundwater samples were taken and analyzed. Contamination from the seepage pit appeared to be confined to the immediate area. Analytical results of soil samples did not reveal detectable concentration of volatile and semi-volatile organic compounds except for low concentrations of suspected laboratory contaminants, methylene chloride and acetone. Elevated concentrations of metals, including iron at 20,000 mg/kg and aluminum at 14,000 mg/kg, were detected. However, IT reported that they were indicative of naturally occurring background levels. Groundwater samples were monitored quarterly for VOCs, SVOCs, and metals. The analysis did not indicate detectable concentrations of organics except for 12 µg/L of bis(2-ethylhexyl)phthalate. The metals identified were below

federal and state drinking water standards. IT concluded that contamination was confined to the seepage pit and soil adjacent to the seepage pit (LAAFB 1997).

RESNA Industries, Inc. was contracted by LAAFB in 1993 to remove, decontaminate, and dispose of the seepage pit and associated underground piping. The final excavation measured approximately 33 feet long by 22 feet wide by 16 feet deep. RESNA reported that approximately 500 tons of dirt and concrete debris, including visibly contaminated soil, were removed from the excavation. Confirmatory samples were taken from the bottom of the excavation and analyzed for petroleum hydrocarbons, VOCs, SVOCs, and metals. The detected contaminant levels did not exceed residential Preliminary Remediation Goals. No further action was recommended for the site (61 ABG/CEZV, 1997). The RWQCB concurred with the no further action recommendation in a letter dated March 7, 1997 (RWQCB 1997).

4.1.5.5 Unknown Sites Listed as IRP Sites

Four sites are listed in the LAAFB IRP Management Action Plan that are not known to exist (LAAFB, 1999). These sites are titled PCB Cleanup (OT-09), Solvent Disposal (WP-12), Simple Tank Removal (WP-13), and Miscellaneous Site (WP-07). A final decision document dated April 1992 indicates that the first three sites "do not exist on any facility under the control of the LAAFB"(61 ABG/CEZV, 1992). Records do not indicate the existence of the fourth site and the IRP Management Action Plan specifies that it too, did not exist (LAAFB, 1999).

4.1.5.6 Other Environmental Site Investigations

In June of 1991, Active Leak Testing, Inc. removed three USTs from the south side of Building 235 (Retail Gas Station). High readings on a flame ionization detector (FID) indicated contaminated soil. The contamination was confirmed by laboratory analysis of soil samples collected beneath the tanks and from soil boreholes. A Remedial Investigation & Feasibility Study and a vapor extraction pilot test were conducted at the site by Tetra Tech between July and August of 1992. The investigation revealed that the contamination migrated vertically between 32 to 45 feet below ground surface. The volume of contaminated soil was estimated to be 3,000 cubic yards.

A vapor extraction system with a regenerative thermal oxidizer for emission control was installed and the system was operated intermittently for one year. According to LAAFB, high natural methane presence in the vadose zone interfered with the operation of the system and the system was shut down (El Capitan 1997).

In February of 1997, El Capitan Environmental Services, Inc. conducted a subsurface soil investigation to determine if site closure was warranted based on the "common sense" approach outlined by the California Regional Water Quality Control Board regarding low risk fuel contamination sites. El Capitan advanced two confirmation soil borings at the center of the plume (as identified by Tetra Tech) to 60 and 65 feet below ground surface. 25 samples were submitted for analysis of TPH, BTEX, and MTBE. TPH concentrations ranged from non-detect to 9,800 mg/kg. Benzene was detected at a maximum of 62.5

mg/kg, toluene at a maximum of 700 mg/kg, ethylbenzene at a maximum of 300 mg/kg and xylenes at a maximum of 1,344 mg/kg. The highest reading for MTBE was 84 mg/kg. The highest concentrations were detected in the samples collected at 35 feet below ground surface (El Capitan 1997).

El Capitan recommended no additional action except occasional monitoring to verify the stability of the plume based on these findings (El Capitan 1997):

- Elevated concentrations are present between 30 to 38 feet bgs
- A 5-foot thick clay layer is present starting at 57 feet
- The depth to groundwater is greater than 100 feet
- The presence of natural methane will interfere with vapor extraction (Tetra Tech)

The site is not yet closed, and further remedial action may be considered, according to LAAFB Environmental staff.

4.1.6 Facility Disclosure Factor Findings

This section presents the findings for the following facility disclosure factors: air quality, asbestos containing materials, drinking water quality, lead-based paint, medical/biohazardous waste, ordnance, pesticides, polychlorinated biphenyls, radon, and radiological substances.

4.1.6.1 Air Quality

LAAFB is located within Los Angeles County, which has been designated a federal and state non-attainment area for ozone, carbon monoxide, and PM10. Los Angeles County is a state attainment area for sulfates and has not been classified for hydrogen sulfide.

A list of LAAFB permitted and non-permitted Air Emission Sources was provided by Base Environmental staff. Area B has six permitted air emission sources. Three of the permitted sources are boilers including Building 200's 3.1 MBtu/hr natural gas burning boiler and two natural gas boilers in Building 241 (13.6 MBtu/hr and 11.0 MBtu/hr). Interviews with Base Civil Engineering staff indicate that the boilers in Building 241are no longer in use due to non-compliance with emission standards. Building 229 has the fourth permitted source, a 6-cylinder diesel portable emergency generator. The final two permitted air emission sources are the phase I and phase II fuel vapor recovery systems (for the 3 USTs and the 18 nozzles) and the soil-vapor extraction system at Building 235, Retail Gas Station.

Table 4-2 presents Area B's non-permitted air emission sources.

Table 4-2: *Non-Permitted Air Emission Sources*

Location	Source	Description
	AST	18,000-gallon propane tank used for back-up fuel for boilers
Building 212		
	Boiler	630 Kbtu/hr, natural gas
	Chiller	R-22
Building 215		
	AST	500-gallon, accumulation of waste oil
	CFC Recovery Unit	Refrigerant recycling, R-134A
	CFC Recovery Unit	Portable automobile AC system, R-12
Building 219		
	Chiller	R-22
	Chiller	R-22
Building 220		
	Woodworking	
Building 227		
	Generator (Stand-by)	196 Br-Hp, #2 Diesel
Building 228		
	Generator (Welding)	11 Br-Hp, Propane
	Welding	
Building 229		
	CFC Recovery Units	2 Portable Units
	Generator (Stand-by)	23 Br-Hp, Diesel
	Woodworking	
Building 235		
	AST	500-gallon, waste oil
	UST	10,000-gallon, unleaded 87-octane
	UST	10,000-gallon, unleaded 89-octane
	UST	10,000-gallon, unleaded 92-octane
	CFC Recovery Unit	Portable automobile CFC recovery/recycling unit
	Degreaser/Solvent	Two degreasers used for brakes and misc. auto parts
Building 241		
	Generator (Stand-by)	Portable gasoline generator
	AST	30-gallon, gasoline for generator

Building 243		
	HEPA Vac	Negative air machine for lead (Five 1-gallon Vacs)
	HEPA Vac	Negative air machine for lead (Two 12-gallon Vacs)
Building 244		
	Chiller	R-22
Building 251		
	Generator (Stand-by)	#2 Diesel

4.1.6.2 Asbestos Containing Material

An asbestos survey was performed in Area B in July of 1988 to determine the extent of asbestos containing materials (ACM) in the base buildings (Gutierrez 1988). Any time a building renovation is planned, an asbestos survey is conducted and the data is compiled in a computer database maintained by Base Environmental Engineering. The database provides percentages of asbestos found in the material of concern. Results from the asbestos survey and data from the database are noted by building on the building summaries in Appendix B-3. A summary of location and percentage asbestos is available in Appendix B-6.

4.1.6.2.1 Water and Wastewater Utilities

Utility lines were not investigated as part of the asbestos study and there has been no comprehensive study of utility equipment. Water and wastewater utility drawings indicate that Area B's water distribution system pipes are constructed of cast iron and ductile iron and the wastewater system is constructed of vitrified clay and cast iron.

4.1.6.2.2 HVAC

The asbestos survey and the database indicate that ACM identified in Area B buildings includes boiler cladding, thermal system insulation (TSI) pipe, TSI valve unions, TSI elbow fittings, TSI boiler gasket, and other insulated HVAC equipment.

4.1.6.2.3 Electrical and Natural Gas Utilities

Interviews with Civil Engineering staff suggest that some of the high voltage systems at LAAFB may contain asbestos-insulated conductors. No information was available regarding the potential presence of ACM in the natural gas distribution system.

4.1.6.3 Drinking Water Quality

The City of El Segundo provides Area B with potable water. LAAFB distributes the water without any further treatment. Bioenvironmental Engineering staff indicated that water sampling and analysis for coliform bacteria, pH, and chlorine are conducted at nine areas within LAAFB on a monthly basis. Annual reports prepared by the water supplier are relied on for other water quality data. Bioenvironmental Engineering staff reported no water quality problems.

4.1.6.4 Lead-Based Paint

A comprehensive lead-based paint survey has not been completed at Area B. However, when renovations are necessary, partial surveys are conducted to ensure safe working conditions. Base Environmental Engineering maintains a lead-based paint inventory containing the results of partial surveys. Under EPA's Title X, Section 403 of the Housing and Community Development Act of 1992, national guidelines for lead hazards in dust, soil, and paint have been developed to assist property owners in determining lead hazards. Under these guidelines, dangerous conditions of lead-based paint (LBP) exist when lead is in excess of either 1.0 mg/cm^2 or 0.5% by weight. Data from the database are noted by building on the building summaries in Appendix B-3.

4.1.6.5 Medical/Biohazardous Waste

The Air Force Clinic is housed in Area B, Building 200. Biohazardous wastes are accumulated in 5-gallon plastic-lined containers throughout the clinic. Wastes are transferred to and stored in a roll-off trash bin, located to the east of Building 200. The waste is then picked up and disposed of off-site by a licensed medical waste contractor.

4.1.6.6 Ordnance

An armory is located in the Security Forces Operations portion of Building 241. According to site personnel, the armory is the only area where munitions are stored at Area B. Real Property Accountable Records indicate that former Building 221 was at one time used to store explosives. A bunker located east of Building 221 was used to calibrate aircraft gun sights (via test firing) during Navy occupation of the site. The building is no longer present at Area B, but the former usage is a potential environmental concern. No documentation was found regarding the closure or decommissioning of the structure.

4.1.6.7 Pesticides

Pesticides are routinely applied throughout Area B. LAAFB has a pest management program with a list of approved pesticides. Only those insecticides, herbicides, and fungicides found on the Department of Defense standardized approval list are applied. An inventory of pesticides used on base is provided in Appendix B-7.

4.1.6.8 Polychlorinated Biphenyls (PCBs)

PCBs on base are contained in fluorescent light fixture ballasts and liquid-filled transformers. Almost every building in Area B contains fluorescent light fixtures. Civil Engineering has instituted a program to slowly eliminate PCB ballasts by replacing the ballasts when repairs are needed. The PCB ballasts are accumulated in Building 229 and then disposed of off-site.

According to a binder in Environmental Engineering entitled "Liquid-Filled Transformers at LAAFB", 4 liquid-filled transformers are in Area B. One 1635-gallon transformer in the northwest corner of Building 240 has a PCB level of 3 parts per million (ppm). Two 265-gallon liquid-filled transformers between Buildings 240 and 241 and between Buildings 243 and 244, both contain less than 1 ppm PCBs. The fourth liquid filled

transformer in Area B is in the northwest portion of Building 200. It is a 637-gallon transformer with a PCB level of 2ppm. Per information provided, all transformers at Area B contain less than 50 ppm PCBs.

4.1.6.9 Radon

Bioenvironmental Engineering staff reported that no radon surveys had been conducted at Area B by the USAF.

The National Radon Database has been developed by the USEPA and is a compilation of the USEPA/State Residential Radon Survey and the National Residential Radon Survey. Of 63 sites tested in Los Angeles County, 98% reported indoor radon levels below 4 pCi/L and 2% reported levels between 4 and 20 pCi/L on the first floor living areas. 100% reported radon levels less than 4 pCi/L in the basements. Los Angeles County has an EPA Radon Zone of 2, meaning the indoor radon level is greater than or equal to 2 pCi/L and less than or equal to 4 pCi/L (EDR 1999).

4.1.6.10 Radiological Substances

Radioactive material is used at Area B for medical purposes. The medical clinic, Building 200, has a Radiology department on the first floor and a Dental department on the second floor. Both departments have radioactive materials.

4.1.7 Conservation Disclosure Factor Findings

Conservation disclosure factor findings include cultural resources, biological resources, and physiographic conditions.

4.1.7.1 Cultural Resources

Cultural resources are prehistoric and historic sites, structures, artifacts, or other physical evidence of human activities considered important to a culture, community, or religion. The State Office of Historic Preservation and the Advisory Council on Historical Preservation are two agencies that stipulate processes for compliance with laws and regulations regarding cultural resources. The primary law governing cultural resources is the National Historic Preservation Act (NHPA). Among other things, NHPA addresses the protection of historic and cultural properties.

The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant to American history and pre-history, architecture, archaeology, engineering, and culture. The National Register includes all prehistoric and historic units of the National Park System, National Historic Landmarks recognized by the Secretary of the Interior, and properties nominated by State Historic Preservation Officers, federal agencies and others that have been approved for listing by the National Park Service. There are no listings in the National Register of Historic Places within a one-mile radius of Area B (EDR-NEPA 1999).

4.1.7.2 Biological Resources

Biological resources include threatened or endangered species, sensitive habitats and ecosystems, wetlands, timberlands, and other resources that provide biodiversity on land and in our oceans and rivers. A search of federal and state databases yielded no officially designated wilderness areas, wildlife preserves, sanctuaries, refuges, wild and scenic rivers or other officially designated natural areas within a one mile radius of Area B (EDR-NEPA 1999). Nor did the search identify any threatened or endangered species or critical habitats with a ½ mile radius. A wetland, however, was identified approximately two miles south of Area B. The wetland is approximately 1/8 mile north of Manhattan Beach Blvd, west of North Aviation Blvd, and east of Sepulveda Blvd. The Floodplain and Wetland Map provided in Appendix F depicts the wetland. Area B is a developed site that consists primarily of paved areas and buildings. Based on the site visit, it appears to lack hydrophytic vegetation, hydric soils, and wetland hydrology.

4.1.7.3 Physiographic Conditions

Physiographic conditions discussed in this section include flood zones, landslides, seismic conditions, and water rights.

4.1.7.3.1 Flood Zone

Area B does not lie within a flood zone. However, a 500-year floodplain lies approximately 1-½ miles east of Area B and another lies approximately 1-mile southeast. The Floodplain and Wetland Map provided in Appendix F depicts the flood zone.

4.1.7.3.2 Landslides

Landslides are a physiographic concern in Los Angeles County. However landslides greater than 5 acres have not occurred within a mile of Area B (Occidental College 1999).

4.1.7.3.3 Seismic Conditions

Seismic conditions are a concern for Los Angeles County and Area B. Active faults known to exist in the vicinity include the San Andreas, Newport-Inglewood, San Fernando, Sierra Madre, and Verdugo (TRC 1999). Visible fault lines are not present within a two-mile radius of Area B, however visible fault lines do exist within approximately 3 miles of Area B (EDR 1999). The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The purpose of the Act is to prevent construction of buildings used for human occupancy on the surface trace of faults. The City of El Segundo is not located within an Alquist-Priolo Earthquake Fault Zone (CA Dept of Cons. 2000a). The Alquist-Priolo Earthquake Fault Zoning Act only addresses surface fault ruptures and does not address other earthquake hazards. However, the Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including seismically induced landslides and liquefaction. A review of the Seismic Hazard Zones Map for Venice Quadrangle (the quadrangle in which Area B is located) indicates that Area B is not situated within an area of concern for liquefaction or seismically induced landslides (CA Dept. of Cons. 2000b).

4.1.7.3.4 Water Rights

Surface water is not present at Area B. LAAFB does not extract ground water, however, overlying land owners in most areas of California may extract ground water and put it to beneficial use. California does not have a permit process for regulation of ground water use but in several basins ground water use is subject to regulation (State Water Resources Control Board 1999). The Los Angeles Regional Water Quality Control Board has a *Basin Plan* designed to preserve and enhance water quality and protect the beneficial uses of all regional waters (RWQCB 1999).

4.2 ADJACENT PROPERTY FINDINGS

Northrop Grumman occupies the adjacent property to the north of Area B. Residential land, Aerospace Corporation, an Entenmann's Bakery Outlet and Lockheed Martin & Nichols Research occupy the adjacent properties to the east. Area A is across the El Segundo Blvd. and Aviation Blvd. intersection, southeast of Area B. Aerospace Corporation is adjacent to Area B's southern property boundary. MSAS Global Logistics, Candle, and Rockwell International, Inc. occupy the adjacent properties to the west of Area B.

An Environmental Data Resources, Inc. (EDR) database report was obtained for Area B. The report consists of an information search of federal and state environmental regulatory databases, arranged according to various search radii (listed within the report by database) centered on the junction of El Segundo Boulevard and Aviation Boulevard.

The EDR report revealed the presence of 11 Cal-Sites properties within 2 miles of Area B. Cal-Sites properties include both known and potential hazardous substance sites. 10 of the sites were referred to other agencies, were satisfactorily remediated, required no further action, or were delisted. The following site required action:

- El Segundo Plaza, 5001-5127 W. El Segundo, had confirmed groundwater contamination and a Preliminary Endangerment Assessment Report was required

One Notify 65 (CA Proposition 65) site, Allied Chemical Corp., 850 S. Sepulveda Blvd., was located between 1-2 miles from Area B. Notify 65 records are entered for releases that could impact drinking water. No further information was available regarding the status of the release. However, Allied Chemical Corp. is also a CERCLIS site, a UST site, and a RCRA large quantity generator.

25 California Hazardous Material Incident Report System (CHMIRS) sites were found within 1.5 miles of Area B. 9 CHMIRS sites involved releases of acids and caustics such as sulfuric acid, nitric acid, hydrochloric acid, and sodium hydroxide. Ground and air were listed as affected media for some of these incidents, and three of the incidents occurred at the same site on the same date (2383 Utah). 3 CHMIRS sites consisted of propane and chlorine gas air releases. 7 CHMIRS sites involved crude oil, cutting oil, lacquer thinner, and solvents. Only the cutting oil spill (2043 East Mariposa Avenue) listed ground contamination, and involved 25 lbs. of released material. The remaining 6

CHMIR sites involved releases of: PCBs at 200 N. Douglas (LAAFB Area B), resin on I-405, adolene at 401 Lapham Street Building 923, radioactive amerilium-beryllium 241 at 6041 W. Imperial Highway, radioactive material at 5721 W. Imperial Highway, and latex paint at a residential property. None of these 6 sites indicated residual environmental contamination.

The Cortese database identifies contaminated drinking water wells, hazardous substance sites, abandoned toxic material sites, reportable UST releases, and solid waste facilities with known contaminant migration. 29 Cortese sites were found within 1.5 miles of Area B. 2 of the sites were LAAFB and The Aerospace Corporation, 2350 E. El Segundo Blvd. The site of concern at LAAFB was a leaking gasoline UST at Whites Point; remedial action was completed or deemed unnecessary. The Aerospace Corporation reported the discovery of a diesel release during a UST closure on January 23, 1986. No information, other than the facility name and address, was available for 8 of the Cortese sites. Sixteen of the remaining sites were listed as leaking UST sites.

Four of the leaking UST sites were categorized as "remedial action completed or deemed unnecessary" and 1 site was apparently included due to a false release report from a faulty tank sensor. The following sites required further action:

- Thrifty Oil No. 253, 5038 W. El Segundo Blvd., no action taken by owner following initial report of release during tank closure on October 5, 1987

- Hawthorne Builders Supply, 12923 Inglewood Ave., preliminary site assessment work plan submitted, soil removal required as of 1995

- Arco No. 6164, 5350 Rosecrans, ongoing groundwater monitoring, MTBE contamination, plume not yet defined

- Blackmore Associates, 700 Airport, no action taken by owner following initial report of release during tank closure on June 19, 1986

- City of El Segundo, 150 Illinois St., no action taken by owner following initial report of release

- Hughes Aircraft, 1925 E. Maple Ave., isopropyl alcohol release, preliminary site assessment work plan submitted as of 1994

- J&D Automotive, 5301 146th, remedial action (soil removal) in progress as of 1993

- International Rectifier Corp., 233 Kansas St., solvent tank release, preliminary assessment underway as of 1994

- International Rectifier Corp., 233 Kansas St., wastewater release, remedial action in progress as of 1990

- So. Bay Petroleum, 5899 W. Imperial Highway, no action taken by owner following initial report of release, tank closed on October 24, 1986

- Garrett Airesearch, 6201 W. Imperial Highway, no action taken by owner following initial report of release, some record details coincide with So. Bay Petroleum – may be same release

The remaining 3 Cortese sites were HMS sites and no information was provided regarding hazardous material releases.

One CERCLIS site, H. Kramer & Co. at 1 Chapman Way, was found within 1 mile of Area B. The site is described as an abandoned foundry and landfill with heavy metal contamination. A PRP-led removal was completed in 1990.

6 RCRA Corrective Action sites (CORRACTS sites) were found within 1.5 miles of Area B. The following summarizes the status of each site:

- Rockwell International, 815 Lapham St., RFA completed, one violation record

- Northrop Corp. Aircraft Division, 800 N. Douglas, 9 violation records (also a CERCLIS NFRAP site)

- Northrop Corp. Aircraft Division, 2043 E. Mariposa Ave., two violation records (also a CERCLIS NFRAP site)

- Raytheon Systems Co., 2000 E. El Segundo Blvd., 10 violation records (also a CERCLIS NFRAP site)

- Hughes Aircraft Co. S&CG, 1920 E. Imperial Highway, RFA completed, 7 violation records (also a CERCLIS NFRAP site)

- Northrop Corp. Aircraft Division, 14525 Oceangate, low CORRACTS priority – no further status information available (also a CERCLIS NFRAP site)

A search of Leaking UST Incident Reports revealed 17 sites within 1 mile of Area B. 6 of these sites were also included in the Cortese database and were discussed above. 10 of the leaking UST sites were categorized as "remedial action completed or deemed unnecessary." The following site required further action:

- United Airline Flight Kitchen, 444 N. Nash St., diesel release discovered during tank closure on December 17, 1990, affected media soil only, remedial action in progress

The UST database indicated there are 25 registered UST sites within approximately 0.75 miles of Area B. At least six of these UST sites (including LAAFB) were also listed in

the Cortese or the Leaking UST database. The CA FID database indicated an additional UST site within 0.75 miles of Area B. No information is available regarding tank integrity in the UST database.

Review of the Resource Conservation and Recovery Information System (RCRIS) database revealed there are 4 Large Quantity Generator (RCRIS-LQG) sites and 18 Small Quantity Generator (RCRIS-SQG) sites within approximately 0.75 miles of Area B. The LQG sites included adjacent property Electronic Enclosures Inc. The HAZNET entries for Electronic Enclosures Inc. indicated they generated the following wastes: paint sludges, unspecified organic liquids, organic solids, oily wastes. According to HAZNET, 38 sites (including LAAFB) within approximately 0.75 miles of Area B have manifested HW for disposal.

The California Regional Water Quality Board's CA SLIC database contained two sites within one mile of Area B: H. Kramer & Co. and El Segundo Plaza. These sites were discussed above in the Cortese and Cal-Sites summaries, respectively.

Additional sites were included in the EDR report but could not be plotted by the report preparer due to incomplete location information. The 45 unplottable sites consisted of the following categories: 24 HAZNET/RCRIS sites, 7 Cortese and/or Leaking UST sites, 6 CA SLIC sites (including LAAFB), 3 UST sites, 2 CA FID sites (including Building 80 at Lawndale Annex), 1 SWF/LF site, 1 ERNS site, and 1 CA BEP site (Fort MacArthur). Insufficient data prevented further evaluation of potential impacts to Area B from these sites.

No information was found which indicated an adverse environmental impact to Area B from adjacent or vicinity properties of concern. However, there is potential for Area B to have been or be adversely affected by adjacent properties. A copy of the EDR report is contained in Appendix F.

4.3 SUBJECT PROPERTY CATEGORIZATION

Based on available information, the subject property and utility corridors are characterized and coded according to seven categories. Explanations of the seven categories and the findings for Area B are provided below (Figure 4-3).

Category 1: Areas where no release or disposal of hazardous substances or petroleum substances has occurred (including no migration of these substances from adjacent properties). The majority of the Area B property including Buildings 201, 202, 205, 206, 207, 209, 211, 212, 213, 214, 218, 222, 224, 225, 226, 227, 228, 242, 243, 244, and 251 and the associated utility corridors were classified as Category 1.

Category 2: Areas where only release or disposal of petroleum substances has occurred. Areas near Buildings 200, 208, 219, 220, 229, 235, 240, and 241 and associated utility corridors were classified as Category 2.

Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require removal or remedial response. No subject properties within Area B were classified as Category 3.

Category 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal and/or remedial actions have been taken. The seepage pit area near Building 215 and its associated utility corridors were classified as Category 4.

Category 5: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal and/or remedial actions are underway, but not yet taken. No subject properties within Area B were classified as Category 5 locations.

Category 6: Areas where release, disposal, and/or migration of hazardous substance has occurred, but required remedial actions have not been implemented. No subject properties with Area B were classified as Category 6.

Category 7: Areas that have not been evaluated or require additional evaluation. No closure documentation was found for two 10,000 gallon USTs identified on the 1964 Area B Master Plan drawing. The drawing indicates the USTs were located south of Building 215 and adjacent to Douglas Street. This area was classified as Category 7.

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5.1 SUBJECT PROPERTY FINDINGS

This section of the EBS includes the findings of the records review, visual site suveys, and base personnel interviews conducted for the subject properties at the LAAFB – Annex #3 (Lawndale Annex).

5.1.1 History and Current Use

Lawndale Annex encompasses approximately 13.34 acres. It is located approximately 12 miles south of the City of Los Angeles, in the City of Hawthorne, California. Figure 5-1 depicts the location of Lawndale Annex, which is located in an urban area; the surrounding area is primarily industrial (LAAFB 1993a).

5.1.1.1 Chain of Title Review

In the years since it was established, the LAAFB expanded by acquiring two annexes: 1) the Lawndale Facility ("Annex 3"), and 2) Fort MacArthur. The focus of this section is the Lawndale Annex; Fort MacArthur is addressed in Section 6.0. Copies of Lawndale Annex real estate files are provided in Appendix C-1.

According to the Real Property Utilization Survey (LAAFB 1993), the following is a list of utility easements currently in place at Lawndale Annex (LAAFB 1993a):

- The Los Angeles County Transportation Commission has an easement for a right of way for a rail transit line. This right-of-way is approximately 0.86 acres; the renewal date is 20 December 2014.

5.1.1.2 Past Usage

In 1958, the Lawndale Army Missile Plant, constructed for Douglas Aircraft Company, was used for the production of aluminum parts. Initially, the plant consisted of two major buildings and 22.73 acres of land. In 1964, the plant came under the control of Army Materiel Command. By July 1965, the facility had been rehabilitated for production of the Shillelagh Missile System (sub-assemblies) and initial production commenced. The Air Force utilized the Lawndale Army Missile Plant, by permit from the Department of the Army, for use as a mobile home park from June 1982 until 20 August 1985, at which time the property was transferred to the Air Force and the mission was changed to support the Space Defense Initiative (SDI). Building 80 was repaired and altered to meet immediate SDI mission requirements (LAAFB 1993a).

A review of historical aerial photographs is presented in Appendix C-2. Aerial photographs of the areas from 1927 to 1956 were reviewed for evidence of prior use, evaluation of land use and development, and to help identify signs of potential environmental concerns. The aerial photographs for 1927, 1941, 1955, and 1956 are presented in Appendix C-2.

5.1.1.3 Current Use

Currently, six of the 13.34 acres are designated as football/softball field, running track, and picnic/recreation pavilion (FAM CAMP). One acre is utilized by the Federal Aviation Authority, by permit from the Air Force, for parking. Four acres are used for parking for personnel working in Building 80. Future plans include expansion of FAM CAMP facilities and installation of a combined restroom with showers, snack bar, volleyball court, and horseshoe pit (LAAFB 1993a).

5.1.2 Environmental Setting

A description of the general environmental setting of Lawndale Annex is summarized in the following sections.

5.1.2.1 Topography and Drainage Patterns

The City of Hawthorne, California lies adjacent to and within the Los Angeles-Orange County coastal plain aquifer. The surface of the basin is relatively flat; however, the Newport-Inglewood Uplift, which trends northwestward along the length of the basin, has formed hills that rise up to 400 feet above the surrounding coastal plain (U.S.G.S 1995). The topography at Lawndale Annex is general level. Spot elevations on topographic maps indicate that elevations range from 67.0 to 73.0 feet above mean sea level (LAAFB 1993b).

5.1.2.2 Groundwater, Hydrology, and Geology

LAAFB lies within the western portion of the Los Angeles Basin, a topographic lowland plain. Unconsolidated and indurated sediments, ranging in age from Jurassic to Recent, characterize the stratigraphy of the Los Angeles Basin. Lawndale Annex is underlain by predominantly silty, fine sands, occurring at an approximate depth of 10 feet. Surface soils consist of clayey, silty sands (ESE 1986).

Groundwater occurs in four formations in the area: 1) Monterey, contains non-potable, connate groundwater with high salinity; 2)Pico, contains non-potable, connate groundwater with high salinity; 3) Lakewood, contains two potable aquifer systems (Gage and Gardena); and 4) San Pedro, contains two potable aquifer systems (Silverado and Lynwood). The shallowest depth to groundwater is greater than 50 feet, and is a localized, semi-perched system in the basal section of an older sand dune. It is in limited quantities and is separated by the deeper aquifers by aquicludes (ESE 1986). The direction of natural groundwater flow is generally toward the Pacific Ocean.

5.1.3 Buildings Overview

In general, Lawndale Annex consists of one building (No.80), a large paved parking area, including a fenced-in RV parking area, on the western portion of the site, and an open recreation area, including a baseball field and football field, on the eastern portion of the site. The southeastern portion of the site consists of a dirt parking area with RV stalls.

The surveyed building (No.80) was a single story building consisting of office space for research and engineering staff. The building is of concrete block construction on a

concrete slab, with painted exterior walls and steel sheet metal roofing. Chain-link fencing was along the perimeter of the grass recreation area and the RV parking area. The interior construction consisted of carpet on concrete floors, painted plasterboard walls, and suspended ceiling tiles. The cooling tower and air handling equipment were located adjacent to the east side of the building. No stressed vegetation, soil stains, or concrete stains were observed. For more detailed information, refer to the Building Summary in Appendix C-3.

5.1.4 Utilities Overview

This section presents an overview of the utilities under consideration for privatization at Lawndale Annex: electric, water, sewer, and natural gas. This organization is further divided by utility. The information in this section is also provided in Appendix C-4. Drawings of each utility are presented in Appendix C-5.

5.1.4.1 Electrical Utility System

Southern California Edison supplies Lawndale Annex with electricity through a single mass meter approximately 100 feet inside the fence line. LAAFB ownership and maintenance responsibilities begin at the mass meter.

The distribution system for Lawndale Annex, as provided in Appendix C-5, consists of approximately 3,330 feet of underground lines and 900 feet of aboveground lines. Underground electrical lines are buried approximately 4 to 6 feet below ground surface. The service voltage at Lawndale Annex is 480 volts. The average monthly energy consumption in 1999 was approximately 71,935 kWh and the maximum monthly demand was 257 kW. This maximum demand occurred in June 1999 (SCE 2000).

Two pad-mounted transformers are present at Lawndale Annex. There are no backup electrical generators. All transformers are dry type, and do not contain PCBs.

5.1.4.2 Water Utility System

Lawndale Annex is supplied with potable water by Southern California Water (SCW). One single master water meter is provided; the master water meter connection is located in a vault along the fenceline. Air Force ownership and maintenance responsibilities begin at the master meter.

At Lawndale Annex, the water distribution system consists of 3000 feet of underground pipelines. Appendix C-5 depicts the water distribution system at Lawndale Annex.

The water utility lines are located at an approximate depth of 4 to 6 feet underground. Water service is delivered at approximately 90 to 95 pounds per square inch (psig). SCW meters Lawndale Annex water at three locations. Average (cumulative) monthly usage, based on the first ten months of 1999, was approximately 197,500 gallons (SCW 1999).

5.1.4.3 Wastewater System

Lawndale Annex wastewater discharges to the City of Los Angeles, Bureau of Sanitation Wastewater Services, Department of Public Works. The wastewater collection system consists of 1100 feet of collection piping and three manholes. The wastewater utility drawing in Appendix C-5 depicts the wastewater piping system at Lawndale Annex.

The wastewater utility lines are buried approximately 4 to 6 feet underground.
Piping materials include: polyvinyl chloride, cast iron, and vitrified clay pipe.

The City of Los Angeles has four wastewater treatment plants that collectively treat approximately 450 million gallons per day (MGD) wastewater. Treated water not reused as reclaimed water is discharged to the Los Angeles River, Santa Monica Bay, and L.A. Harbor (City of LA 1999).

5.1.4.4 Natural Gas

The Southern California Natural Gas Company supplies Lawndale Annex with natural gas. The main trunk line in the street carries approximately 140 psi and a gas company-owned regulator in the trunk line reduces the pressure to 60 psi. No high-pressure gas lines are present on the property. One single gas meter is provided and is located on LAAFB property. Air Force ownership and maintenance responsibilities begin at the mass meters.

The natural gas distribution system extends from the master meter connection and consists of approximately 2,000 feet of piping. The 1999 average monthly natural gas usage at Lawndale Annex was approximately 523 therms. The maximum usage of 1,961 therms occurred in January and the minimum usage of 0 therms occurred in June, August, and November 1999. The natural gas utility drawing in Appendix C-5 depicts the gas distribution system at Lawndale Annex.

Natural gas is distributed throughout the property via underground gas lines buried approximately 4 to 6 feet deep. It is not known if any of the lines are cathodically protected. We are in the process of obtaining the maximum and average demands from Southern California Natural Gas. In order for the information to be released to MPI, a consent form must be signed by LAAFB.

5.1.5 Property Categorization Factor Findings

This section presents the property categorization factor findings based on hazardous substances, petroleum substances, treatment systems, and Installation Restoration Program (IRP) sites.

5.1.5.1 Hazardous Substances

Hazardous substances include both hazardous materials and hazardous wastes.

5.1.5.1.1 Hazardous Materials

Hazardous materials (HAZMAT) are usable products that may pose a physical threat or hazard to humans or the environment. Such materials include, but are not limited to, flammable and combustible liquids, corrosives, and compressed gases. No hazardous materials were identified as stored and or used at the subject property.

5.1.5.1.2 Hazardous Waste

Lawndale Annex is not identified as RCRA hazardous waste generator (EDR, 1999a). Refer to Section 5.1.5.2 for information regarding excavated and disposed materials.

5.1.5.2 Petroleum Substances/Storage Tanks and Related Systems

The electronic database search (EDR 1999) reported the subject property was not listed in any of the databases searched by EDR, including AST, UST, and LUST sites.

A review of *Installation Restoration Program Phase 1 Records Search* indicated two sites were identified as a potential for environmental contamination resulting from past waste disposal practices. One site, located south of Building No. 81 (property of the State of California) is not within the Lawndale Annex installation boundary. The second site consists of two abandoned underground waste petroleum, oils, and lubricants (POL) storage tanks that were used during the operation of the Lawndale Army Missile Plant (LAMP) from 1964 to 1971. The IRP Records Search further states that neither site presented a potential for migration or for endangerment of human health or environmental quality, and therefore they were not further evaluated. (ESE 1986).

A review of *Installation Restoration Program Decision Document* indicated that the two POL storage tanks discussed above were 1,500-gallon diesel #2 USTs. The tanks (#5 and #6) were removed on 28 August 1990.

Testing was conducted prior to removal, indicating the tanks had no leaks. Visual inspections during removal indicated the tanks were in good condition. Soil samples collected from beneath each UST were analyzed for Total Recoverable Petroleum Hydrocarbons (TRPH) and Purgeable Aromatics (BTEX). Laboratory results indicated no significant contamination of tested soils. The IRP Decision Document indicated no further action will be taken (LAAFB 1992).

5.1.5.3 Treatment Systems and Components

No treatment systems exist at the subject property. The City of Los Angeles provides domestic wastewater collection and disposal.

5.1.5.4 Installation Restoration Program Sites

The USAF established their Installation Restoration Program (IRP) to identify, characterize, and evaluate past disposal sites and remediate CERCLA-related contamination on its installations, as needed, to control the migration of contaminants and potential hazards to human health and the environment. The USAF has identified one IRP site within the installation boundaries of Lawndale Annex since the implementation

of this program. This site has received a Decision Document (DD) indicating no further action is planned; therefore this site is considered closed (LAAFB 1992). See Section 5.1.5.2 for more detailed information regarding this site. The location of the IRP site is presented in Figure 5-2.

5.1.6 Facility Disclosure Factor Findings

This section presents the findings for each of the facility disclosure factors.

5.1.6.1 Air Quality

Air quality in this area is regulated by the rules of the South Coast Air Quality Management District. No environmental concerns were identified related to air quality and utilities present at the subject property.

5.1.6.2 Asbestos Containing Materials (ACM)

Federal regulation 29 CFR Section 1910.1001 states *"Presumed asbestos containing material means thermal system insulation and surfacing material found in buildings constructed no later than 1980..."* Building No.80 at Lawndale Annex was constructed in 1958, and therefore it is presumed asbestos may have been used.

According to the asbestos inventory database, as provided by LAAFB Environmental staff, a water line tested positive for asbestos on 3 May 1993, and floor tile mastic tested positive for asbestos on 22 November 1993.

5.1.6.2.1 Water and Wastewater Utilities

The water line tested at Lawndale Annex contained 45% asbestos. The sample suggests that asbestos is a concern for the water lines at Lawndale Annex. The wastewater lines have not been sampled.

5.1.6.2.2 HVAC

The age of Building 80 suggests that asbestos may be present in thermal system insulation throughout the building.

5.1.6.2.3 Electrical and Natural Gas Utilities

Interviews with Civil Engineering staff suggest that some of the high voltage systems at LAAFB may contain asbestos-insulated conductors. No information was available regarding the potential presence of ACM in the natural gas distribution system.

5.1.6.3 Drinking Water Quality

Bioenvironmental Engineering staff indicated that Lawndale Annex potable water is purchased from Southern California Water Company. Water sampling and analysis for coliform bacteria, pH, and chlorine is conducted at nine areas within LAAFB on a monthly basis. Annual reports prepared by the water supply companies are relied upon for other water quality data. No water quality problems were reported by Bioenvironmental Engineering staff.

5.1.6.4 Lead-Based Paint (LBP)

A comprehensive lead-based paint survey has not been completed at LAAFB. However, when renovations are necessary, partial surveys are conducted to ensure safe working conditions. Base Environmental Engineering maintains a lead-based paint inventory containing the results of partial surveys. Under EPA's Title X, Section 403 of the Housing and Community Development Act of 1992, national guidelines for lead hazards in dust, soil, and paint have been developed to assist property owners in determining lead hazards. Under these guidelines, dangerous conditions of lead-based paint (LBP) exist when lead is in excess of either 1.0 mg/cm^2 or 0.5% by weight.

The inventory contains one sample taken at Building 80. The results indicate that the sample contained less than 0.017% lead.

5.1.6.5 Medical/Biohazardous Waste

A review of available information did not indicate the presence of medical or biohazardous wastes at Lawndale Annex.

5.1.6.6 Ordnance

A review of available information did not indicate the current presence of munitions at Lawndale Annex. Since the property was formerly used as a missile plant, it can be assumed that munitions may have been stored on-site. Available information neither excludes nor includes the storage of ordnance at Lawndale Annex.

5.1.6.7 Pesticides

The pesticide inventory provided by Base Environmental does not contain any approved pesticides for Lawndale Annex.

5.1.6.8 Polychlorinated Biphenyls (PCBs)

According to Base Environmental personnel, all LAAFB transformers, including those at Lawndale Annex, are considered PCB free. All transformers at Lawndale Annex are dry and do not contain PCBs. Fluorescent lights were observed in Building 80 during the site visit, and it is presumed fluorescent lights with PCB ballasts may be present.

5.1.6.9 Radon

Bioenvironmental Engineering staff reported that no radon surveys had been conducted at Lawndale Annex by USAF.

The National Radon Database has been developed by the USEPA and is a compilation of the USEPA/State Residential Radon Survey and the National Residential Radon Survey. Of 63 sites tested in the County of Los Angeles, 100 percent reported radon levels below 4.0 pCi/L in the basement, 98 percent reported radon levels below 4.0 pCi/L in the first floor, and 2 percent reported radon levels between 4 and 20 pCi/L in the first floor (EDR 1999a).

The U.S. EPA assigns each county in the U.S. to one of three zones, based on radon potential which "reflects the average short-term radon measurement that can be expected to be detected in a building without the implementation of radon control methods." Los Angeles County has an EPA Radon Zone of 2, meaning the indoor radon level is greater than or equal to 2 pCi/L and less than or equal to 4 pCi/L (EDR 1999).

5.1.6.10 Radiological Substances

LAAFB personnel report that no radiological surveys have been conducted at Lawndale Annex.

5.1.7 Conservation Disclosure Factor Findings

Conservation disclosure factors include cultural resources, biological resources, and physiographic conditions.

5.1.7.1 Cultural Resources

Cultural resources are prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or religion. The State Office of Historic Preservation and the Advisory Council on Historical Preservation are two agencies that stipulate processes for compliance with laws and regulations regarding cultural resources. The primary law governing cultural resources is the National Historic Preservation Act (NHPA), which among other things, addresses the protection of historic and cultural properties.

The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant to American history and pre-history, architecture, archaeology, engineering, and culture. The National Register includes all prehistoric and historic units of the National Park System, National Historic Landmarks recognized by the Secretary of the Interior, and properties nominated by State Historic Preservation Officers, federal agencies and others that have been approved for listing by the National Park Service. There are no listings in the National Register of Historic Places within a one-mile radius of Lawndale Annex (EDR-NEPA 1999).

5.1.7.2 Biological Resources

Biological resources include threatened or endangered species, sensitive habitats and ecosystems, wetlands, timberlands, and other resources that provide biodiversity on land and in our oceans and rivers. A search of federal and state databases yielded no officially designated wilderness areas, wildlife preserves, sanctuaries, refuges, wild and scenic rivers or other officially designated natural areas within a one mile radius of Lawndale Annex (EDR-NEPA 1999). Nor did the search identify any threatened or endangered species or critical habitats with a ½ mile radius. A wetland, however, was identified within 1 mile of the subject property. The wetland is southwest of Lawndale Annex and is approximately 1/8 mile north of Manhattan Beach Blvd, west of North Aviation Blvd, and east of Sepulveda Blvd. The Floodplain and Wetland Map provided in Appendix G depicts the wetland.

5.1.7.3 Physiographic Conditions

Physiographic conditions discussed in this section include flood zones, landslides, seismic conditions, and water rights.

5.1.7.3.1 Flood Zones

According to the EDR NEPA Check report, the subject property is located within a 500-year flood zone, which extends ¼ to ½ mile east and southeast of the subject property (EDR 1999b).

5.1.7.3.2 Landslides

Landslides are a physiographic concern in Los Angeles County. However landslides greater than 5 acres have not occurred within a mile of Lawndale Annex (Occidental College 1999).

5.1.7.3.3 Seismic Conditions

Seismic conditions are a concern for Los Angeles County. Visible fault lines are not present within a two-mile radius of Lawndale Annex (EDR-NEPA 1999). Active faults known to exist in the vicinity include the San Andreas, Newport-Inglewood, San Fernando, Sierra Madre, and Verdugo (TRC 1999). The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The purpose of the Act is to prevent construction of buildings used for human occupancy on the surface trace of faults. The City of Hawthorne is not located within an Alquist-Priolo Earthquake Fault Zone (CA Dept of Cons. 2000a). The Alquist-Priolo Earthquake Fault Zoning Act only addresses surface fault ruptures and does not address other earthquake hazards. However, the Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including seismically induced landslides and liquefaction. A review of the Seismic Hazard Zones Map for Inglewood Quadrangle (the quadrangle in which Lawndale Annex is located) indicates that Lawndale Annex is not situated within an area of concern for liquefaction or seismically induced landslides (CA Dept. of Cons. 2000b).

5.1.7.3.4 Water Rights

Surface water is not present at Lawndale Annex. LAAFB does not extract ground water, however, overlying land owners in most areas of California may extract ground water and put it to beneficial use. California does not have a permit process for regulation of ground water use but in several basins ground water use is subject to regulation (State Water Resources Control Board 1999). The Los Angeles Regional Water Quality Control Board has a *Basin Plan* designed to preserve and enhance water quality and protect the beneficial uses of all regional waters (RWQCB 1999).

5.2 ADJACENT PROPERTY FINDINGS

A windshield survey of properties surrounding the subject site and the general area was performed. The following were observed during the windshield survey of the properties surrounding Lawndale Annex:

- To the north: Hawthorne Yard and Shop, Southern California Edison electrical substation
- To the east: Southern California Edison electrical substation
- To the south: apartment buildings, federal office building
- To the west: gas station, TRW

An Environmental Data Resources, Inc. (EDR) database report was obtained for Lawndale Annex. The report consists of an information search of federal and state environmental regulatory databases, arranged according to various search radii (listed within the report by database) centered at Lawndale Annex.

The EDR report identified seven CAL-SITES properties within one mile of the subject property. CAL-SITES properties include both known and potential hazardous substance sites. All seven sights were referred to other agencies, were satisfactorily remediated, required no further action, or were delisted. The following site required action:

- L.A. C.M.T.A., 14724 Aviation Blvd, was remedied satisfactorily under the Department of Toxic Substances Control (DTSC) oversight.

Seven California Hazardous Material Incident Report System (CHMIRS) sites were found within a 1-mile radius of the subject property. Three of the sites released acids to the ground, one of which, the site located at 2838 Utah in El Segundo, CA, had three release events of mixed acids on the same date. Two of the CHMIRS sites involved releases of fuel to the ground, bunker fuel oil and diesel, and two sites involved the release of gases to the air, chlorine gas and methylene chloride gas.

The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known migration. A review of the Cortese list has identified 17 Cortese sites within one mile of the subject property. No information, other than the facility name and address, was available for the Cortese sites.

The CORRACTS Database is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity. A review of the CORRACTS list identified two CORRACTS sites within one mile of the subject property. The EDR report indicates these sites are of low and medium importance, respectively. Their status is not reported.

Information provided in the HAZNET database are extracted from the copies of hazardous waste manifests received each year by the DTSC. A review of the HAZNET list, as provided by EDR, has identified three HAZNET sites within 0.25 miles of the subject property. For two of the sites, Tanny's Auto Servie and TRW Inc., the EDR

report indicates that no further information was available. The third site is the L.A. C.M.T.A. The report indicates that this site disposes of organic waste solids by incineration.

Review of the Resource Conservation and Recovery Information System (RCRIS) Database revealed that there are two small quantity generators within 0.25 miles of the subject property. Of the two sites identified, all are at equal or higher elevations. For all of these sites, the EDR report indicates no recycling of used oil and no violations found.

California Regional Water Quality Control Board's, CA SLIC database contained three sites within 0.50 miles of the subject property. The three sites are the TRW Main Facility, TRW Space and Defense, and TRW Building M1. The main facility is under "Site Assessment" status, the space and defense building property indicates that there is no further information regarding the site and the building M1 has a "Closure" status.

A search of the Leaking UST Incident Reports revealed ten listings within 0.5 miles of the subject property. Of the ten listings, four are inactive, no information is listed for one, two are undergoing pollution characterization, one has "preliminary site assessment underway" status, and two are undergoing remedial action.

The listings undergoing pollution characterization include:

- Arco #6164, 5350 Rosecrans Ave., the release (gasoline) was reported 22 April 1988, other ground water was affected.

- Thrifty #254, 5230 Rosecrans Ave. the release (gasoline) was reported 30 March 1992, other ground water was affected.

The site undergoing preliminary site assessment:

- Cloverlake/Chang Automotive, 5306 Rosecrans Ave., the release (gasoline) was reported 25 February 1992.

The sites undergoing remedial action:

- J & D Automotive, 5301 146th Street, the release (gasoline) was reported 27 August 1991, affected soil only

- TRW Space & Defense, the release (solvents) was reported 10 March 1995, other ground water affected

The UST database contains registered USTs regulated under RCRA. The database identified one registered UST within 0.25 miles of the subject property at the TRW Inc. site. The CA FID database maintains active and inactive UST locations. The CA FID database does not indicated any additional UST site within 0.25 miles of the subject property.

Additional sites were included in the EDR report but could not be plotted by the report preparer due to incomplete location information. The 27 sites that were not plotted consisted of the following categories: 9 CA SLIC sites (two of which are LAAFB Area A and Area B), 5 HAZNET sites, 3 Cortese and/or LUST sites, 1 UST site, 6 SWF/LF sites, 1 CERC-NFRAP site, and 2 FINDS, RCRIS-LQG, CORRACTS sites.

No information was found which indicated an adverse environmental impact to Lawndale Annex from adjacent or vicinity properties of concern. However, there is potential for Lawndale Annex to have been or be adversely affected by adjacent properties. A copy of the EDR report is contained in Appendix G.

5.3 SUBJECT PROPERTY CATEGORIZATION

Based on available information, the subject property and utility corridors are characterized and coded according to seven categories. Explanations of the seven categories and the findings for Lawndale are provided below (Figure 5-3).

Category 1: Areas where no release or disposal of hazardous substances or petroleum substances has occurred (including no migration of these substances from adjacent areas). Lawndale Annex and associated utility corridors were classified as Category 1.

Category 2: Areas where only release or disposal of petroleum substances has occurred. No locations were classified as Category 3.

Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require removal or remedial response. No locations were classified as Category 3.

Category 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions have been taken. No locations were classified as Category 4.

Category 5: Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but not yet taken. No locations were classified as Category 5.

Category 6: Areas where release, disposal, and/or migration of hazardous substances has occurred, but remedial actions have not been implemented. No locations were classified as Category 6.

Category 7: Areas that have not been evaluated or require additional evaluation. No locations were classified as Category 7.

5.4 REFERENCES

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6.1 SUBJECT PROPERTY FINDINGS

This section of the EBS includes the findings of the records review, visual site inspections and base personnel interviews conducted for the subject properties at Fort MacArthur, LAAFB.

6.1.1 History and Current Use

Fort MacArthur is located in San Pedro, CA, approximately 21 miles south of downtown Los Angeles. The area encompasses approximately 96 acres, bordered by 22nd Street on the north, Stephen M. White Dr. on the south, Pacific Avenue on the west, and Los Angeles Harbor on the east. Figure 6-1 depicts the location of Fort MacArthur.

6.1.1.1 Chain of Title Review

On October 1, 1982, Fort MacArthur with land, buildings, and improvements was transferred from the Department of the Army to the Department of the Air Force on DD Form 1354, Transfer and Acceptance of Military Real Property. The transfer included 96 acres of land with 105 buildings (LAAFB 1993).

The following is a list of utility outgrants in place at Fort MacArthur (LAAFB 1993):

- The City of Los Angeles holds a 0.02 acre right of way for a subsurface sanitary sewer pipeline, which was granted in 1982 and is due for renewal in 2032
- The City of Los Angeles holds an indefinite license to construct, operate and maintain a covered storm drain along Pacific Ave. within Fort MacArthur (Amendment No. 1 to License dated 10 March 1969)
- Southern California Edison Co. holds a 0.0035 acre right of way for electric power transmission, which was granted in 1983 and is due for renewal in 2033
- Southern California Edison Co. holds a 0.004 acre right of way for 30 ft. of overhead wire and one pole, which was granted in 1984 and is due for renewal in 2032

6.1.1.2 Past Usage

In 1888, a 50-acre parcel described as "500 Varas Square" was reserved from public domain as a military reservation. The reservation was designated Fort MacArthur in 1914 and construction work began on a harbor defense. In 1917, the 38th Artillery Unit of the Army arrived at Fort MacArthur. During World War I, Fort MacArthur served as a reception and training center for inductees. In the 1930's, the 63rd Coast Artillery was assigned to Fort MacArthur and Fort MacArthur was used for harbor defense and an antiaircraft artillery post. The size of Fort MacArthur grew as the Army acquired land south of the 500 Varas Square. Fort MacArthur served as a recruit reception and training center as it continued to defend Los Angeles Harbor during World War II (ESE 1985).

Nike Missile Batteries were established in the 1950's at the Fort MacArthur Upper Reservation near Whites Point and other sites around Los Angeles. In 1974, the Army

announced that Fort MacArthur would be closed except the 96-acres of the middle reservation, which included the original 500 Varas Square. This land was retained for support of active and reserve Army units in southern California. In 1982, the middle reservation land was transferred to the U.S. Air Force (ESE 1985).

Aerial photographs were reviewed to evaluate prior land uses of the subject and adjacent properties and to help identify signs of potential environmental concerns. Aerial photographs from 1928, 1945, and 1986 are presented in Appendix D-1. The 1928 photograph depicts development at 500 Varas Square in accordance with the land uses described above. It also indicates development south of 500 Varas Square at the location of the former American Trona Plant. The building was built in 1917 and used as a nitrate processing plant before being acquired by the Army in 1942. The subject property appears to be undeveloped south of 30th Street. The adjacent properties to the northwest, south, and west of Fort MacArthur are developed and appear to be residential and possibly partly commercial. The adjacent property to the northeast appears to be industrial.

The 1945 photograph depicts the northern portion of the subject property and the land uses appear to be similar to those described above. The adjacent property to the east of 500 Varas Square appears to be industrial. The 1986 photographs depict land uses similar to those described above.

Historic Sanborn Fire Insurance Maps were obtained for the years 1921, 1950, and 1969, and are provided in Appendix H. The 1921 Sanborn Map indicates that the portion of the Fort MacArthur property located south of the Trona Complex was formerly occupied by the Southern Pacific Railroad Reservation, the General Petroleum Corp. Point Fermin Pump House, and dwellings. Property use to the west and north was primarily residential. The San Pedro Cemetery was shown to the northwest of Fort MacArthur. The General Petroleum Corp. pump house is not present on the 1950 map. The 1969 Sanborn Map shows the military reservation encompassing the properties formerly occupied by the Southern Pacific Railroad Reservation, the Trona Complex, and the dwellings located on the east side of S. Pacific Ave.

6.1.1.3 Current Usage

Fort MacArthur is currently used to provide military family housing, administrative offices, storage, Civil Engineering shops, and a parade ground in support of LAAFB.

6.1.2 Environmental Setting

6.1.2.1 Topography and Drainage Patterns

Fort MacArthur lies within the Los Angeles Basin, a topographic northwest-trending lowland plain. To the west of Fort MacArthur this lowland plain is interrupted by the Palos Verdes Hills, which form an uplifted peninsula jutting into the Pacific Ocean. Elevations at Fort MacArthur range from 70 feet above mean sea level (amsl) along Pacific Avenue at the western boundary to 50 feet amsl along the top of the bluff

bordering the eastern boundary. The bluff is a descending, east-facing 25 to 40 feet high escarpment with variable slopes ranging from approximately 45 degrees to near vertical (ESE 1985).

The majority of the installation is asphalt-paved and contains stormwater drainage systems to control runoff. The stormwater runoff is collected in open catch basins and routed through an underground system of 4-inch to 45-inch asbestos or reinforced concrete pipes. All storm drains eventually discharge into Los Angeles Harbor (ESE 1985).

6.1.2.2 Geology and Hydrogeology

Fort MacArthur is located on the southeastern end of the Palos Verdes Peninsula, along the western edge of the Los Angeles Harbor. Bedrock in the vicinity of Fort MacArthur consists of Jurassic Shist and Miocene age volcanics. Immediately west of the site is the Palos Verdes Fault. The fault is a northwest to southwest trending feature with little surficial displacement in the last 10,000 years. This faulting has resulted in exposure of Jurassic age Catalina Schist, Miocene age volcanics, and the Miocene Monterey Formation (ESE 1985).

The Monterey Formation consists of predominately massive shale, micaceous siltstone, and lesser amounts of fine to medium-grained sandstone. The Pliocene Repetto Formation overlies the Monterey. The Repetto Formation consists of marine, sandy siltstone, claystone, and shales (ESE 1985).

Because of the bedrock nature of the underlying geologic units, Fort MacArthur does not have a well-developed aquifer system. The Monterey shale is considered highly impervious, with groundwater occurring in localized sand units. The water is highly saline and does not have a hydraulic connection to freshwater recharge. Small, localized perched water tables may occur on top of the silty clay units, however an aquifer system has not been defined (ESE 1985).

6.1.3 Buildings Overview

Fort MacArthur consists of 320 military family housing buildings and 38 buildings used for maintenance, storage, medial, administrative, and community purposes. Representative buildings were surveyed during the site visit. A summary for each building included in the visual survey, based on site visits and a records search, is provided in Appendix D-2. The summary contains available information including: construction date, construction materials, current building use, prior building uses, utility information, and potential environmental concerns.

6.1.4 Utilities Overview

This section presents an overview of the utilities at Fort MacArthur: electrical, water, wastewater, natural gas, and HVAC systems. Civil Engineering (CE) is tasked with overall base utility management. Drawings of each utility are presented in Appendix D-3. Some utility systems within the Fort MacArthur Base Area may be 50+ years in age,

although Fort MacArthur CE indicated that significant utility upgrades were implemented circa 1988. Construction of the Fort MacArthur Housing Area was conducted in 1982 and 1985, therefore utility systems in the Housing Area are approximately 14-17 years old. A summary of the utility information is presented in Appendix D-4.

6.1.4.1 Electrical Utility System

Southern California Edison Co. supplies Fort MacArthur with electricity. A drawing depicting the electrical distribution system at Fort MacArthur is provided in Appendix D-3. There are two main electrical feeds to Fort MacArthur, one for the Base Area and one associated with the Housing Area. The service voltage at the Base Area is 16,000 volts and the service voltage at the Housing Area is 2,400 volts. Another feed also serves the Base Area with a service voltage of 240 volts. The average cumulative (both meters) 1999 monthly energy consumption at the Base Area was 210,121 kWh and the maximum demand was 420 kW. The maximum demand occurred in several months in 1999 (SCE 2000). The average 1999 monthly energy consumption at the residential area was approximately 163,489 kWh and the maximum demand was 512 kWh. The maximum demand occurred in January 1999 (SCE 2000).

The Fort MacArthur distribution system consists of approximately 18,000 ft. of primary distribution line and 15,000 ft. of secondary distribution line, both installed underground. The distribution system drawing and the document "Location of Fort MacArthur Liquid Filled Transformers," provided by LAAFB Environmental, indicate there are approximately 45 transformers associated with the electrical distribution system. Ownership and maintenance responsibility for the distribution system within Fort MacArthur's property boundaries lies with LAAFB.

According to the Air Emission Sources reports provided by LAAFB Environmental, a non-permitted diesel generator provides backup power for Building 28. The generator is a 34 BHP, diesel-fueled unit.

6.1.4.2 Water Utility System

Fort MacArthur purchases potable water from the City of Los Angeles Division of Water and Power (LADWP). The water delivered by LADWP is a blend of Owens River water from the Eastern Sierra Nevada (77.5%), groundwater from local wells (13.2%), and Colorado River water purchased from the Metropolitan Water District of Southern California (LADWP 1999a).

Water is supplied through four metered connections on the western side of Fort MacArthur (from laterals beneath Pacific Avenue). Water is delivered at approximately 60 psi at the Housing Area (LADWP 1999b). Water consumption data was obtained for the meter associated with the Housing Area. In 1999, the average monthly water consumption at the Housing Area was approximately 2.661 million gallons (LADWP 1999b). A drawing showing the water distribution system at Fort MacArthur is provided in Appendix D-3. Water is distributed via underground pipelines, ranging in size from 1 to 12 inches in diameter. Water utility lines are located approximately 4 to 6 feet

underground. Fort MacArthur has an estimated 30,000 linear feet of distribution pipe. Pipe materials include asbestos cement (transite) pipe (approximately 8,000 ft.), PVC, cast iron, copper, and galvanized pipe.

The water distribution system for the Housing Area was installed in 1982 and 1985. Portions of the water system in the Base Area may be 50+ years old, however Fort MacArthur CE indicated that significant utility upgrades were implemented circa 1988. LAAFB owns and maintains the water distribution lines on Fort MacArthur.

6.1.4.3 Wastewater System

The Fort MacArthur wastewater system discharges to the LADWP sewage system. Outflow is not metered. Wastewater is collected through underground pipelines ranging in diameter from 2 inches to 8 inches. A drawing depicting the wastewater piping system at Fort MacArthur is included in Appendix D-3.

The pipe construction material used at Fort MacArthur is vitrified clay (clay tile) and cast iron in the Base Area and PVC in the Housing Area. There are approximately 18,000 feet of wastewater mains and lines on Fort MacArthur. The wastewater infrastructure in the Housing Area dates from 1982 and 1985. Portions of the wastewater infrastructure in the Base Area may be 50+ years old, however Fort MacArthur CE indicated that significant utility upgrades were implemented circa 1988.

6.1.4.4 Natural Gas System

Southern California Gas Co. supplies natural gas to Fort MacArthur through two metered points of connection. One meter, located at the northwest corner of the property, adjacent to Building 51, records usage for the Base Area. The second meter, located at the corner of 34th Street and Pacific Avenue, records usage for the Housing Area. Natural gas is distributed at 5 psig throughout Fort MacArthur. The average monthly usage in the Base Area for the first eleven months of 1999 was approximately 9,893 therms. The maximum usage of 17,452 therms occurred in January and the minimum usage of 3,792 therms occurred in October. The average monthly usage in the Housing Area for the first eleven months of 1999 was 12,684 therms. The maximum usage of 22,641 therms occurred in January and the minimum usage of 6,760 occurred in July.

Natural gas is distributed at Fort MacArthur through underground gas lines ranging in diameter from 0.75 to 4 inches. The distribution system consists of approximately 18,000 feet of gas mains (both areas). All natural gas piping is the property of the Air Force. The natural gas distribution system drawing is provided in Appendix D-3.

6.1.4.5 HVAC (Boilers and Chillers)

The Non-Permitted Air Emission Source Database indicates Buildings 28, 30, 32, 33, 36, 37, 40, 41, 401, and 410 are equipped with boilers for space heating, and in the case of Building 401, to heat the water in the Fort MacArthur swimming pool. The boilers use natural gas as the primary fuel. Housing Area units and other buildings are heated using gas-fueled, forced hot air units.

Buildings 28, 403, and 425 are equipped with chillers. The chiller for Building 28 uses R-22 refrigerant. Building 403 is equipped with two chillers; the refrigerant used is not listed in the database. Building 425's chiller is capable of using R-11, R-12 or R-22 as a refrigerant. R-11 contains chlorofluorocarbons (CFCs).

Descriptions of the equipment are based on the site visit and information from the Real Property Accountable Records and the Permitted/Non-Permitted Air Emission Sources database.

6.1.5 Property Categorization Factor Findings

This section presents the property categorization factor findings based on hazardous substances, petroleum substances, treatment systems, and IRP sites.

6.1.5.1 Hazardous Substances

Hazardous substances include both hazardous materials and hazardous wastes.

6.1.5.1.1 Hazardous Materials

Hazardous materials (HM) are usable products that may pose a physical threat or hazard to humans or the environment. Such materials include, but are not limited to, flammable and combustible liquids, corrosives, and compressed gases. HM is stored and used at various locations throughout Fort MacArthur. The primary user of HM at Fort MacArthur is Civil Engineering.

Maintenance chemicals such as paint, spackle, thinner, motor oil, adhesives, solder, and PVC cement are stored in flammable lockers in Building 68. A storage cabinet labeled "Explosives" was also present in Building 68. Acetylene, oxygen, and HVAC system refrigerants are stored in Building 78.

HM Storage was also observed in Building 401, which housed the filters for the Fort MacArthur swimming pool. The following HM was observed and was stored for pool water treatment purposes: sodium hypochlorite (approx. 330 gallons), muriatic acid (approx. 75 gallons), bleach (several 15-gallon drums and gallon-size containers), and smaller quantities of sodium bicarbonate, algaecides, cyanuric acid hydrate, and liquid carbon dioxide.

6.1.5.1.2 Hazardous and Regulated Waste

Los Angeles AFB is designated as a RCRA large quantity generator (EPA ID CAL000076732). Waste tracking reports, provided by LAAFB Environmental staff, indicate waste streams from Fort MacArthur consist of the following:

- waste compressor oil, drained oil filters, waste paint, and waste sodium bicarbonate, generated by ACCS, Building 78
- waste aerosol spray cans (Building 68) and oily rags and waste oil (Building 72), generated by IAP

The 1997 Hazardous Waste (HW) Biennial Report listed the following HW streams for Fort MacArthur: hazardous waste solid (lead) from lead paint abatement projects, waste diesel fuel, waste flammable liquid (mineral spirits) – adhesives; and waste petroleum oil (mineral oil) (61 ABG 1998a).

HW accumulation points are located at Buildings 68, 72, and 78. No indications of releases from these areas were observed during the site visit.

6.1.5.2 Petroleum Substances/Storage Tanks

Fort MacArthur was transferred to the USAF with one existing underground storage tank (UST), a 500-gallon fuel oil UST located at Building 28, which provided a fuel supply for a 30-kilowatt reserve power generator. Thirteen former and abandoned UST sites, ranging in capacity from 200 to 10,000 gallons, were also identified by the Installation Restoration Program Phase I Records Search (ESE 1985). The Phase I report recommended final closure of 8 abandoned USTs that remained in place.

Groundwater contamination was encountered at the site of two 10,000-gallon former fuel storage USTs located east of Buildings 104 and 105. The UST removal activities undertaken by LAAFB and the findings of soil and groundwater investigations, which led to a no further action recommendation, are discussed in Section 6.1.5.4.

LAAFB Environmental staff indicated that no USTs are present at Fort MacArthur during interviews for this EBS report.

6.1.5.3 Treatment Systems and Components

Sanitary wastewater is discharged to the LADWP sewage system without on-site treatment.

6.1.5.4 Installation Restoration Program Sites

An Installation Restoration Program (IRP) Phase I Records Search was conducted at LAAFB by others and identified nine potential sites of environmental concern at Fort MacArthur (Figure 6-2). Seven of the sites identified were either stormwater drains or vehicle washracks and were found to have little potential for residual contamination; no further action was taken regarding these sites (ESE 1985). No further action was also taken for the eighth site, a battery acid neutralization pit (DS-1) on the south side of Building 453 (LAAFB 1999). The ninth site identified during the IRP was a pesticide wastewater soakage pit site near Building 113. The pesticide pit site and a former fuel storage site, identified by LAAFB personnel in 1985, are described below.

<u>Building 113 – Pesticide Wastewater Soakage Pit Site (DS-2)</u>

Pesticide-contaminated wastewater generated by rinsing pesticide application equipment and pesticide containers was reportedly discharged into either a gravel pit or a sanitary sewer system near Building 113 until the early 1970s (61 ABG/CEZV, 1998b). A field investigation was conducted in February 1997 to determine if pesticides were present in the soil. Three soil borings were drilled and soil samples were collected at the 1, 5, and

10-foot depth intervals at each boring location. Pesticides were detected in the soil boring nearest the sanitary sewer at the 1-foot depth (61 ABG/CEZV, 1998b). The concentrations of the detected pesticides were below the U.S. EPA residential preliminary remediation goal screening values and no further action was recommended for the site (Cal/EPA 1997). The California EPA Department of Toxic Substances Control concurred with the no further action recommendation in a letter data October 17, 1997 (Cal/EPA 1997). The site was officially closed June 8, 1998 (61 ABG/CEZV, 1998b).

Former Fuel Storage Site (ST-02)

The removal of two 10,000-gallon fuel USTs located east of 104 and 105 Smallwood Drive is documented in the Decision Document for the Former Fuel Storage Area. Residual liquids from the World War II vintage USTs were removed in 1987 and disposed at a permitted facility. A soil boring was advanced between the USTs and a sample was recovered from 25 ft. below grade that contained 891 mg/kg total petroleum hydrocarbons. Based on the soil sample result, the Los Angeles Fire Department, which had been providing closure oversight, requested a site assessment be conducted (61 ABG 1997).

Weston and TetraTech conducted successive soil boring and monitoring well investigations. In 1994, the USTs were excavated. No soil contamination was encountered, although BTEX compounds were detected in groundwater samples. The Los Angeles Regional Water Quality Control Board accepted a no further action recommendation, since the groundwater at the site was non-potable and successive groundwater sampling revealed decreasing concentrations of contaminants, in a letter dated July 8, 1997 (61 ABG 1997).

6.1.5.5 Other Areas of Environmental Concern

Civilian-owned industrial operations were conducted on the Fort MacArthur property from 1918 to the early 1940s. The Trona Complex (Buildings 410, 411, and 425) processed nitrate salts for use by munitions manufacturers. The refined nitrate salts were shipped from the facility by rail. After the Trona Co. went out of business in the early 1920s, the buildings were subsequently occupied by American Mineral Co. (a manufacturer of roofing materials), the Color-Kote Co.(produced a one-step auto polish/cleaner), and the American Cardboard and Cartage Co. An oil pumping station (used to lift petroleum products from the harbor to the City of San Pedro) was located near Building 500 from approximately 1920 until the late 1930s. An asphalt paving company operated at this location during a similar timeframe (ESE 1985).

The IRP Phase I Records Search report indicates that municipal sewers were installed on the Fort MacArthur property in 1918, and stormwater was historically discharged to the harbor via vitrified clay and concrete drain systems. The area adjacent to and south of the former Trona Plant was been developed by the construction of USAF housing units in 1982, and construction excavations did not reveal indications of former landfills, disposal sites, or soil releases (ESE 1985).

Historic aerial photographs contained in Appendix D-1 show the former Trona Complex in 1928, 1945, and 1986. The 1928 photograph appears to show two ASTs located at the north end of the complex. The ASTs are not visible in the 1945 photograph and information confirming the presence of the ASTs was not found. The 1986 photographs show demolition of part of the Trona Complex, and also show another AST located south of the complex, adjacent to S. Pacific Ave.

Historic Sanborn Fire Insurance Maps were obtained for the years 1921, 1950, and 1969, and are provided in Appendix H. The 1921 Sanborn Map indicates the Trona Complex buildings were vacant except for the boiler house, which was used as an auto repair facility by the day watchman. The 1921 Sanborn Map also depicts the two ASTs at the north end of the complex, which were discussed above. The 1950 Sanborn Map indicated the former Trona Complex was owned by Harbor Properties, Inc., and part of the complex was used for auto storage.

6.1.6 Facility Disclosure Factor Findings

This section presents the findings for the following facility disclosure factors: air quality, asbestos containing material, drinking water quality, lead-based paint, medical/biohazardous waste, ordnance, pesticides, polychlorinated biphenyls, radon, and radiological substances.

6.1.6.1 Air Quality

LAAFB is located within Los Angeles County, which has been designated a federal and state non-attainment area for ozone, carbon monoxide, and PM10. Los Angeles County is a state attainment area for sulfates and has not been classified for hydrogen sulfide (CA Air Resources Board 1999).

Base Environmental staff provided a list of LAAFB permitted and non-permitted Air Emission Sources. Fort MacArthur has two permitted air emission sources including a charbroiler at the Community Center (Building 403) and a 116 BHP woodchipper in Building 78 and 19 non-permitted air emission sources. The non-permitted air emission sources are comprised of 10 natural gas boilers in Buildings 28, 30, 32, 33, 36, 37, 40, 41, 401, and 405; 2 chillers in Building 403, one in Building 28 and another in Building 425; a diesel generator in Building 28 and a gasoline generator in Building 76; a CFC recovery unit in Building 78; and a halogen system in Building 80.

6.1.6.2 Asbestos Containing Materials

An asbestos survey was performed at Fort MacArthur in July of 1988 to determine the extent of asbestos containing materials (ACM) in on-base buildings (Gutierrez 1988). In addition, any time a building renovation is planned, an asbestos survey is conducted and the data is compiled in a Microsoft Access Database maintained by Base Environmental Engineering. The database provides percentages of asbestos found in the material of concern. Results from the asbestos survey and data from the database are noted by building on the building summaries in Appendix D-2.

6.1.6.2.1 Water and Wastewater Utilities

The water utility drawing indicates that portions of Fort MacArthur's water distribution system were constructed of transite/asbestos concrete piping. The wastewater system is constructed of polyvinyl chloride, cast iron, and vitrified clay pipe.

6.1.6.2.2 HVAC

The asbestos survey and the database indicate that ACM identified in Fort MacArthur buildings includes boiler cladding, thermal system insulation (TSI) pipe, TSI valve unions, TSI elbow fittings, TSI boiler gasket, and other insulated HVAC equipment.

6.1.6.2.3 Electrical and Natural Gas Utilities

Interviews with Civil Engineering staff suggest that some of the high voltage systems at LAAFB may contain asbestos-insulated conductors. No information was available regarding the potential presence of ACM in the natural gas distribution system.

6.1.6.3 Drinking Water Quality

The City of Los Angeles provides Fort MacArthur with potable water. LAAFB distributes the water without any further treatment. Bioenvironmental Engineering staff indicated that water sampling and analysis for coliform bacteria, pH, and chlorine are conducted at nine areas within LAAFB on a monthly basis. Annual reports prepared by the water supplier are relied upon for other water quality data. Bioenvironmental Engineering staff reported no water quality problems.

6.1.6.4 Lead-Based Paint

A comprehensive lead-based paint survey has not been completed at Fort MacArthur. However, when renovations are necessary, partial surveys are conducted to ensure safe working conditions. Base Environmental Engineering maintains a lead-based paint inventory containing the results of partial surveys. Under EPA's Title X, Section 403 of the Housing and Community Development Act of 1992, national guidelines for lead hazards in dust, soil, and paint have been developed to assist property owners in determining lead hazards. Under these guidelines, dangerous conditions of lead-based paint (LBP) exist when lead is in excess of either 1.0 mg/cm^2 or 0.5% by weight. Data from the database are noted on the building summaries in Appendix D-2.

6.1.6.5 Medical/Biohazardous Waste

An Air Force Clinic is located in Building 30 and a Veterinary Clinic is located in Building 417. Biohazardous wastes are picked up and disposed of off-site by a contractor.

6.1.6.6 Ordnance

The former American Trona Plant, Building 425, was a potash fertilizer refinery built in 1917. The U.S. Army acquired it in 1942. Anecdotal information suggests that if was used for the production of fertilizer and munitions. Other ordnance on base includes munitions maintained by Security Police and an inaccessible storage cabinet labeled

"Explosives" in Building 68. No other information was obtained regarding storage and disposal of munitions.

6.1.6.7 Pesticides

Pesticides are routinely applied throughout Fort MacArthur. LAAFB has a pest management program with a list of approved pesticides. Only those insecticides, herbicides, and fungicides found on the Department of Defense standardized approval list are applied. An inventory of pesticides used on base is provided in Appendix D-5.

6.1.6.8 Polychlorinated Biphenyls (PCBs)

PCBs on base are contained in fluorescent light fixture ballasts and liquid-filled transformers. Fluorescent light fixtures are present throughout Fort MacArthur. Civil Engineering has instituted a program to slowly eliminate PCB ballasts by replacing the ballasts when repairs are needed.

According to a binder in Environmental Engineering entitled "Liquid-Filled Transformers at LAAFB," 45 liquid-filled transformers are located throughout Fort MacArthur. The list indicates that all transformers at Fort MacArthur contain less than 50 parts per million (ppm) PCBs.

6.1.6.9 Radon

The National Radon Database has been developed by the USEPA and is a compilation of the USEPA/State Residential Radon Survey and the National Residential Radon Survey. Of 63 sites tested in Los Angeles County, 98% reported indoor radon levels below 4 pCi/L and 2% reported levels between 4 and 20 pCi/L on the first floor living areas. 100% reported radon levels less than 4 pCi/L in the basements. Los Angeles County has an EPA Radon Zone of 2, meaning the indoor radon level is greater than or equal to 2 pCi/L and less than or equal to 4 pCi/L (EDR 1999).

6.1.6.10 Radiological Substances

USAF Bioenvironmental indicated that neither the USAF Clinic in Building 30 nor the Veterinary Clinic in Building 417 were equipped with x-ray equipment. No information was found which indicated the storage or use of radiological substances at Fort MacArthur.

6.1.7 Conservation Disclosure Factor Findings

Conservation disclosure factor findings include cultural resources, biological resources, and physiographic conditions.

6.1.7.1 Cultural Resources

Cultural resources are prehistoric and historic sites, structures, artifacts, or other physical evidence of human activities considered important to a culture, community, or religion. The State Office of Historic Preservation and the Advisory Council on Historical Preservation are two agencies that stipulate processes for compliance with laws and regulations regarding cultural resources. The primary law governing cultural resources is

the National Historic Preservation Act (NHPA). Among other things, NHPA addresses the protection of historic and cultural properties.

The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant to American history and pre-history, architecture, archaeology, engineering, and culture. The National Register includes all prehistoric and historic units of the National Park System, National Historic Landmarks recognized by the Secretary of the Interior, and properties nominated by State Historic Preservation Officers, federal agencies and others that have been approved for listing by the National Park Service.

According to Real Property records, twenty-seven buildings at Fort MacArthur are included in the National Register. Twenty-six of the historic buildings are within 500 Varas Square, the original Fort MacArthur land. 500 Varas Square, also known as the parade ground, is designated a Historic District. The buildings include those currently used for military family housing, base civil engineering, the clinic, and the child development center. The twenty-six 500 Varas Square buildings include: Buildings 1, 2, 3, 7, 9, 10, 11, 30, 31, 32, 33, 36, 37, 40, 41, 50, 51, 52, 53, 54, 55, 56, 102, 103, 104, and 105. The twenty-seventh building is the former American Trona Plant, Building 425.

6.1.7.2 Biological Resources

Biological resources include threatened or endangered species, sensitive habitats and ecosystems, wetlands, timberlands, and other resources that provide biodiversity on land and in our oceans and rivers.

6.1.7.2.1 Threatened and Endangered Species and Sensitive Habitats

The western portion of the subject property is included in a portion of land listed as a federal natural/wildlife feature in the Federal Lands Database (EDR 1999). The search did not identify any threatened or endangered species or critical habitats within a ½ mile radius.

6.1.7.2.2 Wetlands

The eastern portion of Fort MacArthur along the Los Angeles Harbor and north of 32nd Street is classified as a wetland per the 1994 National Wetlands Inventory (EDR 1999). Another wetland is present approximately 2 miles southwest of the subject property along the harbor. The Floodplain and Wetland Map provided in Appendix H depicts the wetlands.

6.1.7.3 Physiographic Conditions

Physiographic conditions discussed in this section include flood zones, landslides, seismic conditions, and water rights.

6.1.7.3.1 Flood Zone

The eastern edge of the subject property is designated a 100-year flood zone. Further inland the designation changes to a 500-year flood zone (EDR-NEPA 1999). The Detail Map provided in Appendix H depicts the flood zones.

6.1.7.3.2 Landslides

Landslides are a physiographic concern in Los Angeles County. However, landslides greater than 5 acres have not occurred within a mile of Fort MacArthur (Occidental College 1999).

6.1.7.3.3 Seismic Conditions

Fort MacArthur lies within the San Pedro Shelf Section of the Palos Verdes Fault Zone. The fault is approximately two kilometers (km) wide and extends from beneath the San Pedro Bay to the Palos Verdes Hills. The total length of the zone may exceed 50 km. A thirty-degree change in strike at the Los Angeles Harbor may indicate a boundary between onshore and offshore sections of the fault. The record of seismicity from 1977 to 1989 indicates that only three small (magnitude less than 3.5) strike-slip events occurred near the surface trace of the fault section (USGS 1999). Figure 6-3 depicts the San Pedro Shelf Section of the Palos Verdes Fault Zone.

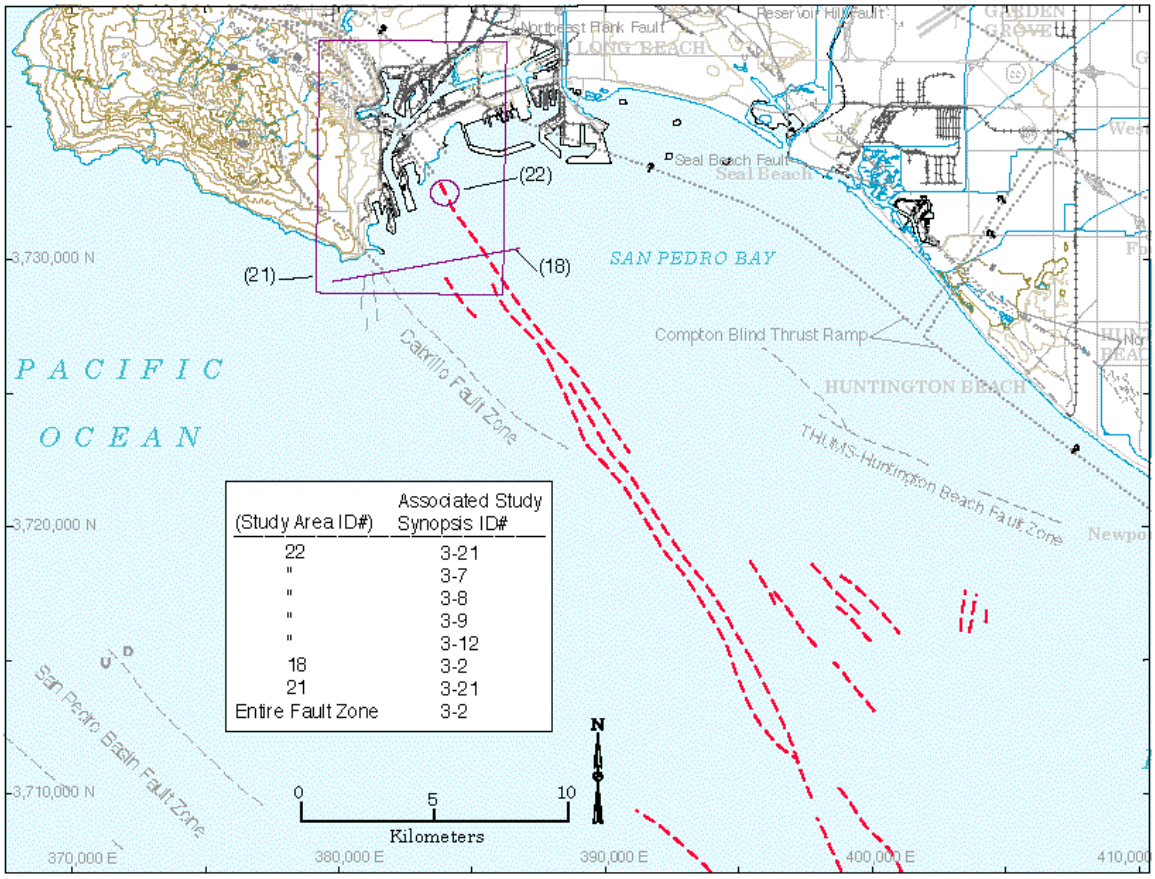

Figure 6-3: Palos Verdes Fault Zone, San Pedro Shelf Section (within the square) Taken from USGS 1999 (http://quake.wr.usgs.gov/study/scfaults/lb/3fs.html)

The Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including seismically induced landslides and liquefaction. A review of the Seismic Hazard Zones Map for San Pedro Quadrangle (the quadrangle in which Fort MacArthur is located) indicates that the property included in the EBS effort is not within in area of concern, however directly on the harbor and adjacent to the subject property is an area where historic liquefaction has occurred. (CA Dept. of Cons. 2000b).

6.1.7.3.4 Water Rights

Surface water is not present on Fort MacArthur. LAAFB does not extract ground water, however, overlying landowners in most areas of California may extract ground water and put it to beneficial use. California does not have a permit process for regulation of ground water use but in several basins ground water use is subject to regulation (State Water Resources Control Board 1999). The Los Angeles Regional Water Quality Control Board has a *Basin Plan* designed to preserve and enhance water quality and protect the beneficial uses of all regional waters (RWQCB 1999).

6.2 ADJACENT PROPERTY FINDINGS

Residences occupy the adjacent properties to the north of Fort MacArthur. The Pacific Ocean and a marina are located to the east. Fort MacArthur is bounded on the west side by S. Pacific Avenue. A mixture of residential and commercial properties is located along the west side of S. Pacific Avenue, including a laundromat, a market, and a hauler (Cleanup Masters) near the corner of 28th St.; a market and an abandoned service station near the corner of 34th St.; and a commercial facility of unknown use near the corner of 30th St. The southern side of Fort MacArthur is bounded by Stephen White Drive. Properties located across Stephen White Drive include apartments, Shorewood Realtors, and an aquarium.

An Environmental Data Resources (EDR), Inc. database report was obtained for Fort MacArthur. The report consists of an information search of federal and state environmental regulatory databases, arranged according to various search radii (listed within the report by database) centered on the junction of Arthur MacArthur Road and 29th Street, San Pedro, California.

One DTSC Annual Work Plan (AWP) site, the GATX Annex Terminal, is located within approximately 1.25 miles of Fort MacArthur. The AWP database entry indicates groundwater contamination is present at the site.

The EDR report revealed the presence of 3 Cal-Sites properties within 1.25 miles of Fort MacArthur. Cal-Sites properties include both known and potential hazardous substance sites. One of the sites is the GATX Annex discussed above. A second, General American Transportation Corp., was referred to another agency. The remaining site, the Auto Body Shop located at 1505-1555 S. Pacific Avenue, had confirmed groundwater contamination and a Preliminary Endangerment Assessment Report was required.

One Notify 65 site, San Pedro Naval Housing, was located approximately 1.25 miles from Fort MacArthur. Notify 65 records are entered for releases that could impact drinking water. No further information was available regarding the status of the release.

The Cortese database identifies contaminated drinking water wells, hazardous substance sites, abandoned toxic material sites, reportable UST releases, and solid waste facilities with known contaminant migration. Four Cortese sites were found within 1.25 miles of Area A. One of the sites listed was Fort MacArthur. The site of concern at Fort MacArthur was a leaking diesel UST discovered in April 1991; a remediation plan was developed as of 1994. Another Cortese site was the GATX Annex previously discussed due to its AWP status. The remaining two sites were listed as leaking UST sites, and required further action:

- Shell Oil Co., 1631 S. Pacific, potential gasoline release to soil, discovered October 1989, leak being confirmed
- Harbor Auto Body, 1106 S. Palos Verdes St., free product and dissolved gasoline groundwater plumes defined, consultant to submit comprehensive SAR with remedial alternatives as of September 1998

A search of Leaking UST Incident Reports revealed 3 sites within 0.75 miles of Fort MacArthur. One of the Leaking UST sites is Fort MacArthur, and was also included in the Cortese database and discussed above. A second leaking UST site, Cabrillo Marina, was categorized as "remedial action completed or deemed unnecessary." The following site required further action:

- Bray Terminal, 2115 Gaffey St., was transferred to CA SLIC for cleanup oversight of Jet-A fuel groundwater contamination, not associated with a UST source, as of April 1998

The UST database indicated there are 2 registered UST sites within approximately 0.5 miles of Fort MacArthur. One site was the Fort MacArthur Housing Annex. The registered UST was a 500-gallon diesel tank. The second site, Mikes Marine at 210 Whalers Walk (Berth 31), registered three 9,900 gallon USTs which stored diesel fuel and gasoline. No information is available regarding tank integrity in the UST database.

The CA FID database contains active and inactive USTs and is maintained by the State Water Resource Control Board. Three sites were found within 0.5 miles of the subject property, two of which were Department of the Air Force at 2434 S. Pacific and Fort MacArthur at 2400 S. Pacific. The third site, Cabrillo Marine Fuel, is located at 210 Whalers Walk Berth. The database entries do not distinguish the type of USTs nor the stored product.

Review of the Resource Conservation and Recovery Information System (RCRIS) database revealed there is one Large Quantity Generator (RCRIS-LQG) sites and 3 Small Quantity Generator (RCRIS-SQG) sites within approximately 0.5 miles of Fort MacArthur. The LQG site was Pacific Bell at 2930 Pacific Ave. No violations were reported for Pacific Bell or the 3 SQGs. According to HAZNET, 9 sites (including Fort

MacArthur) within approximately 0.5 miles of Fort MacArthur have manifested HW for disposal.

The California Regional Water Quality Board's CA SLIC database contained one site within 0.75 miles of Fort MacArthur: Bray Terminal. This site was discussed above in the Leaking UST summary.

Additional sites were included in the EDR report that could not be plotted by the report preparer due to incomplete location information. The 63 unplottable sites consisted of the following categories: 1 CERCLIS/NFRAP site, 2 UST sites, 2 WMUDS sites, 15 HAZNET/RCRIS sites (two of which were LAAFB and USAF Los Angeles AFB), 6 SWF/LF sites, 6 RCRIS-SQG/FINDS sites, 26 ERNS sites, 1 TSCA site, and 4 CA SLIC sites.

The information available in the EDR Report did not indicate any adverse impacts to Fort MacArthur from the vicinity sites. There is a potential, however, that Fort MacArthur may be adversely impacted by adjacent and vicinity properties. A copy of the EDR report is contained in Appendix H.

6.3 SUBJECT PROPERTY CATEGORIZATION

Based on available information, the subject property and utility corridors are characterized and coded according to seven categories. Explanations of the seven categories and the findings for Fort MacArthur are provided below (Figure 6-4).

Category 1: Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas). The northern portion of Fort MacArthur (and associated utility corridors), which has been used as a military reservation since 1888, is classified as Category 1 due to historic ordnance storage, vehicle maintenance, and other military training and industrial activities which were conducted on-site. No releases or disposals have been documented. The Housing Areas constructed in 1982 and 1985 were also classified as Category 1.

Category 2: Areas where only the release or disposal of petroleum substances has occurred. The former site of the 10,000-gallon fuel USTs (east of 104 and 105 Smallwood Drive) and the associated utility corridors were classified as a Category 2 site.

Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require removal or remedial response. The Building 113 Pesticide Wastewater Soakage Pit (IRP Site DS-2) and the associated utility corridors were classified as a Category 3.

Category 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions have been taken. The Building 453 Battery Acid Neutralization Pit (IRP Site DS-1) and the associated utility corridors were

classified as Category 4, since it has been capped, in effect, by the placement of fill and the construction of a roadway.

Category 5: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions are underway, but not yet taken. No locations within Fort MacArthur were classified as Category 5.

Category 6: Areas where release, disposal, and/or migration of hazardous substances has occurred, but remedial actions have not been implemented. No locations within Fort MacArthur were classified as Category 6.

Category 7: Areas that have not been evaluated or require additional evaluation. The former Trona Complex and associated utility corridors were classified as a Category 7 area due to incomplete data regarding decommissioning of fuel ASTs and other industrial facilities observed on historic Sanborn Maps and aerial photographs. The Phase I IRP Records Search Report identified 8 sites with abandoned USTs that had not yet been removed. Considering the two USTs remediated east of Building 105, the final closure of six USTs is not yet documented. These USTs operated adjacent to Buildings 80, 408, 42, and 32.

6.4 REFERENCES

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7.1 SUBJECT PROPERTY FINDINGS

This section of the EBS includes the findings of the records review, visual surveys, and base personnel interviews conducted for the subject properties at Pacific Heights and Pacific Crest, LAAFB.

7.1.1 History and Current Use

7.1.1.1 Chain of Title Review

Copies of the Pacific Heights and Pacific Crest real estate files, including some recorded land title records, are provided in Appendix E-1.

7.1.1.2 Past Usage

The Pacific Heights housing area occupies part of Fort MacArthur's former Whites Point parcel. Whites Point contained two 16-inch rifle emplacements (on the north-central portion of the property) during World War II. A drainage swale was constructed between the property now occupied by the Pacific Heights housing and the rifle emplacements to deter surface drainage from reaching the emplacements. In addition, support facilities, including a motor pool area, were built above the drainage swale, south of the intersection of 25th Street and Western Avenue. Between 1943 and 1946, all of the major armament was inactivated; most was sold for scrap (LAAFB, 1997; SMC, 1995).

In 1954, A NIKE-AJAX missile battery was constructed at Whites Point. In 1974, the NIKE sites were declared obsolete and decommissioned. In 1975, the Army declared Whites Point excess and turned it over to the City of Los Angeles.

The Pacific Crest housing area, located north of Pacific Heights, was a former Navy housing site. This land was titled to Louie M. Sepulveda from 1942 through 1945. In 1945, the site was divided into two parcels. The smaller parcel (approximately 4.7 acres) was transferred to the U.S. Government for Navy housing. The larger parcel (approximately 20.3 acres) was transferred to the Roman Catholic Archbishop of Los Angeles in 1952. A 10-foot wide encroachment area along the western boundary, formerly owned by Roman D. Sepulveda from 1935 to 1942, has been developed by adjacent property owners (LAAFB, 1988).

In April 1987, an agreement was reached between the Air Force and the City of Los Angeles for the Air Force to receive title to 11.34 acres at Whites Point (renamed Pacific Heights) and 22.09 acres of Bogdanovich Park (renamed Pacific Crest) for Air Force personnel housing (SMC, 1995).

Aerial photographs of the housing areas from 1928 and 1945 were reviewed for evidence of prior use, evaluation of land use and development, and to help identify signs of

potential environmental concerns. The aerial photographs for 1928 and 1945 are presented in Appendix E-2.

7.1.1.3 Current Usage

Pacific Heights and Pacific Crest are military housing areas, constructed between August 1987 and August 1989, to provide family housing for LAAFB personnel. The Pacific Heights and Pacific Crest housing areas encompass approximately 11.34 acres and 22.09 acres, respectively.

The housing areas are located approximately 25 miles southeast of the City of Los Angeles, in the community of San Pedro, California. Pacific Heights is located in an area known as Whites Point on the Palos Verdes Peninsula (LAAFB, 1997), south of 25th Street and west of Western Avenue. Pacific Crest is located north of Pacific Heights, north of 25th Street and west of Western Avenue. Figure 7-1 depicts the locations of the Pacific Heights and Pacific Crest housing areas. These housing areas are located in a suburban setting.

7.1.2 Environmental Setting

A description of the general environmental setting of the Pacific Heights and Pacific Crest housing areas is summarized in the following sections.

7.1.2.1 Topography and Drainage Patterns

San Pedro, California lies adjacent to and within the Los Angeles-Orange County coastal plain aquifer system, which is contained in a coastal plain basin encompassing approximately 860 square miles. The surface of the basin is relatively flat; however, the Newport-Inglewood Uplift, which trends northwestward along the length of the basin, has formed hills that rise up to 400 feet above the surrounding coastal plain (U.S.G.S, 1995). The EDR report indicates the topographic gradient is generally to the SSW (EDR, 1999a).

The topography at the Pacific Heights and Pacific Crest housing areas is generally level, with steep downward slopes to the south. Spot elevations on topographic maps indicate elevations at Pacific Heights range from 332.7 to 379.4 feet above mean sea level (ft MSL), with slopes to 270 ft MSL to the west and slopes to 302 ft MSL to the south-southeast (Department of the Air Force, 1997). Spot elevations at Pacific Crest range from 397.1 to 447.1 ft MSL, with slopes to 352 ft MSL to the southeast (Department of the Air Force, 1993).

The region contains several mesas, which are underlain by sediments and alluvial deposits of late Pleistocene age. The mesas are separated by erosion gaps. The primary drainage pathways are currently and/or historically through these gaps, which also allow water to move between inland aquifers and the sea. The major bodies of water in the coastal plain basin that receive drainage are the Los Angeles River, the San Gabriel River, and the Santa Ana River (U.S.G.S, 1995).

7.1.2.2 Groundwater, Hydrology, and Geology

San Pedro, California lies adjacent to (along the southwestern edge) the Los Angeles-Orange County coastal plain aquifer system, which is contained in a coastal plain basin encompassing approximately 860 square miles. Predominant regional use of groundwater is for public supply. Reclaimed water is recharged for groundwater replenishment and pumped into the aquifer system near the coast to prevent seawater intrusion. The coastal plain aquifer system includes several aquifers, each consisting of a distinct layer of water-yielding, unconsolidated sand and gravel, usually separated by clay and silt confining units. However, water passes between adjacent aquifers either through sediments that are in direct hydraulic contact or via sand and gravel within the intervening confining units (U.S.G.S, 1995).

The direction of natural groundwater flow is generally toward the Pacific Ocean. However, groundwater flow is altered or restricted by structural features (e.g., faults and anticlines) at several places in the coastal plain basin. The Newport-Inglewood Uplift is approximately perpendicular to the direction of natural groundwater flow, toward the Pacific Ocean. In addition, natural recharge enters the aquifer system, allowing water flow between aquifers that are hydraulically connected (U.S.G.S, 1995).

Conversely, the housing areas are located in an area where there is no well-developed aquifer (EDR 1999); groundwater is saline and occurs as connate formation water in small located sand units that have no connection to freshwater recharge (U.S.G.S, 1995). The depth to groundwater is approximately 110 to 113 feet below grade. Localized artesian conditions are present at approximately 27 feet below the eastern portion of Whites Point (LAAFB, 1997).

The mountains of the Los Angeles-Orange County coastal plain basin are underlain by consolidated rocks, which are of igneous, metamorphic, and marine-sedimentary origin. The basin has been filled with a thick sequence of deposits, consisting of marine deposits, during periodic encroachment of the sea, and alluvium derived from weathering of the rocks in the surrounding mountains (U.S.G.S, 1995). The EDR report indicates the geological age is of the Cenozic era, Tertiary system, Miocene series (EDR, 1999a). The Los Angeles-Orange County coastal plain basin is a structural basin, formed by folding of consolidated sedimentary, igneous, and metamorphic rocks, with two major troughs separated by an uplift and faulted structural zone containing sediments as thick as 30,000 feet in some areas (U.S.G.S, 1995).

The Pacific Heights housing area is underlain by thinly interbedded siltstones, claystones, siliceous shales, bituminous shales, sandstones, and chert. Surface soils consist of hard silty clay, including Quaternary terrace and colluvial deposits (LAAFB, 1997).

7.1.3 Buildings Overview

During the site reconnaissance, the housing areas were surveyed via windshield survey. One representative housing unit was surveyed by a visual reconnaissance survey (VRS).

In general, the housing units consisted of one- and two-story detached single family units, designed in California Mediterranean style, with three or four bedrooms. The Pacific Heights and Pacific Crest housing areas contain 79 and 91 single family housing units, respectively. Pad-mounted transformers were observed throughout each of the housing areas. A cell phone tower was observed at the north end of the Pacific Crest housing area, overlooking the valley. A review of Department of the Air Force utility maps indicates the following common areas are present at Pacific Heights: four "tot lots" and two basketball courts (Department of the Air Force, 1997). The following common areas are present at Pacific Crest: three "tot lots," three basketball courts, and two picnic areas (Department of the Air Force, 1993).

The housing unit surveyed (Pacific Crest Unit No.13) was a two-story, single family home with a two-car garage, two bathrooms, and a utility room for washer/dryer hookups. The house is of wood frame construction on a concrete slab with painted stucco exterior walls and shingle roofing. Roof gutter drains were directed to the ground at the base of the house. Chain-link fence enclosed the perimeter of the back yard, and wood fencing was installed at the back patio. The interior construction consisted of carpet and tile on concrete floors, painted sheetrock walls, textured ceilings, and ceramic tile kitchen countertops. The heating/cooling air handling unit was located in the garage. No stressed vegetation, stained soil, or stained concrete was observed. For more detailed information, refer to the Building Summary Sheet in Appendix E-3. Photos from the visual survey are provided in Appendix E-4.

7.1.4 Utilities Overview

This section presents an overview of the utilities at the Pacific Heights and Pacific Crest housing areas: electric, water, sewer, and natural gas. Drawings of each utility are presented in Appendix E-5. A Utility Summary is presented in Appendix E-6.

7.1.4.1 Electrical Utility System

The City of Los Angeles Department of Water and Power (LADWP) supplies the Pacific Heights and Pacific Crest housing areas with electricity.

One mass electrical meter is provided at each of the housing areas, approximately 100 feet inside the fence line. There are no separate house meters. Air Force ownership and maintenance responsibilities begin at the mass meters. LADWP records indicate that the maximum demand at Pacific Heights from March 1999 to February 2000 was 172.4 kW. This demand occurred in January 2000. The maximum demand at Pacific Heights from March 1999 to February 2000 was 132.0 kW. This demand also occurred in January 2000 (LADWP 2000a).

The electrical distribution system drawings for Pacific Heights and Pacific Crest are provided in Appendix E-5. Pacific Crest's distribution system is comprised of

approximately 7,400 feet of underground electrical lines. Underground electrical lines are buried approximately 4 to 6 feet below grade.

There are 6 pad-mounted transformers present in the Pacific Heights housing area and 5 pad-mounted transformers present in the Pacific Crest housing area. There are no backup electrical generators present at either housing area. The transformers are dry-type, and do not contain PCBs.

7.1.4.2 Water Utility System

The Pacific Heights and Pacific Crest housing areas are supplied with potable water by the LADWP. Water is supplied from three principal sources: 1) the Los Angeles Aqueduct (LAA), 2) local groundwater, and 3) purchased water imported by the Metropolitan Water District of Southern California (MWD). MWD obtains its water supplies from two sources: 1) Northern California's Bay-Delta through the California Aqueduct and 2) the Colorado River through its own Colorado River Aqueduct.

Two meters are located at Pacific Heights and one at Pacific Crest. Air Force ownership and maintenance responsibilities begin at the meters.

At Pacific Heights, the water system extends from the meter connections via an estimated 5,100-ft. of 8-inch and 6-inch distribution piping to 79 single-family homes and four fire hydrants. At Pacific Crest, the water system extends from the master meter connection via an estimated 6,600 ft. of 10-inch, 8-inch, and 6-inch water lines to 91 single-family homes and to six fire hydrants. Water is delivered at approximately 60 psi. The 1999 cumulative (both meters) average monthly water consumption at Pacific Heights was approximately 1.344 million gallons. The 1999 average monthly water consumption at Pacific Crest was approximately 1.213 million gallons (LADWP 2000b). The water distribution systems at Pacific Heights and Pacific Crest are shown on drawings in Appendix E-5.

The water utility lines are located at an approximate depth of 4 to 6 feet underground. Installation of the water distribution system began in 1987 and continued as the housing area developed, through August 1989.

7.1.4.3 Wastewater System

The Pacific Heights and Pacific Crest housing areas discharge to sewers operated by the City of Los Angeles, Bureau of Sanitation Wastewater Services, Department of Public Works. The housing area wastewater collection systems are connected to the City's system at a manhole located at the south end of the Pacific Heights area and at a manhole located at the entranceway to the Pacific Crest housing area.

At Pacific Heights, the wastewater collection system consists of approximately 4,900 feet of piping from 79 single-family homes with nine manholes. At Pacific Crest, the wastewater collection system consists of 6,200 feet of piping from 91 single-family homes with 10 manholes. The wastewater piping systems at Pacific Heights and Pacific

Crest are shown on drawings in Appendix E-5. The wastewater utility lines are buried from approximately 4 to 6 feet underground.

The City of Los Angeles has four wastewater treatment plants that collectively treat approximately 450 million gallons per day (MGD) of wastewater. Treated water not reused as reclaimed water is discharged to the Los Angeles River, Santa Monica Bay, and L.A. Harbor (City of LA, 1999).

7.1.4.4 Natural Gas

The Pacific Heights and Pacific Crest housing areas are supplied with natural gas by the Southern California Natural Gas Company. One gas meter is provided at each of the housing areas; gas meter connections are located within the fenceline along 25th Street. Air Force ownership and maintenance responsibilities begin at the mass meters.

At Pacific Heights, the natural gas distribution system extends from the master meter connection via 4,900 ft. of 1-1/2-inch distribution piping to 79 single-family homes. At Pacific Crest, the natural gas distribution system extends from the master meter connection via 6,600 ft. of 1 and 1-1/2-inch lines to 91 single-family homes. The average monthly natural gas usage for the first eleven months of 1999 at Pacific Heights was 3,465 therms. The maximum usage of 6,056 therms occurred in January and the minimum usage of 1,521 therms occurred in July. The average monthly natural gas usage for the first eleven months of 1999 at Pacific Crest was 3,923 therms. The maximum usage of 7,100 therms occurred in January and the minimum usage of 1,648 therms occurred in July (SCG 2000). The gas distribution systems at Pacific Crest and Pacific Heights are shown on the drawings in Appendix E-5.

Natural gas is distributed throughout the housing areas via underground gas lines, buried approximately 4 to 6 feet deep. The Southern California Natural Gas Company supplies natural gas to the housing areas at a pressure of 60 pounds per square inch (psig); natural gas is distributed within the housing areas at 4 psig. No high-pressure gas lines are present on either property. It is not known if the natural gas lines are cathodically protected.

7.1.5 Property Categorization Factor Findings

This section presents the property categorization factor findings based on hazardous substances, petroleum substances, treatment systems, and IRP sites.

7.1.5.1 Hazardous Substances

Hazardous substances include both hazardous materials and hazardous wastes.

7.1.5.1.1 Hazardous Materials

Hazardous materials (HAZMAT) are usable products that may pose a physical threat or hazard to humans or the environment. Such materials include, but are not limited to, flammable and combustible liquids, corrosives, and compressed gases. No hazardous materials, other than typical household cleaning supplies and maintenance chemicals, are expected to be stored or used at the subject property.

7.1.5.1.2 Hazardous Waste

Neither the Pacific Heights nor the Pacific Crest housing areas are identified as RCRA hazardous waste generators (EDR, 1999a). Hazardous waste tracking reports provided by LAAFB Environmental staff do not identify Pacific Heights or Pacific Crest as HW generators.

7.1.5.2 Petroleum Substances/Storage Tanks and Related Systems

The electronic database search (EDR 1999) reported the subject property was not listed in any of the databases searched by EDR, including AST, UST, and LUST sites. LAAFB Environmental staff indicated there are no USTs on LAAFB properties.

7.1.5.3 Treatment Systems and Components

No treatment systems exist at the subject property. The City of Los Angeles provide domestic wastewater collection and disposal.

7.1.5.4 Installation Restoration Program Sites

The USAF established the Installation Restoration Program (IRP) to identify, characterize, and evaluate past disposal sites and remediate CERCLA-related contamination on its installations, as needed, to control the migration of contaminants and potential hazards to human health and the environment. The USAF identified one IRP site on the subject property, the Pacific Heights Housing Disposal Area Site (LF-04). The location of the IRP site is presented on Figure 7-2.

Initial excavations for the Pacific Heights housing units in December 1987 uncovered buried 55-gallon drums and debris. The drums and debris had been historically disposed in the former drainage swale described in Section 7.1.1.2. The suspected origin of the buried waste was the demolition of the former Whites Point motor pool activity and NIKE site (61 ABG 1997).

Environmental investigations were conducted, including 21 soil borings and magnetometer surveys. 65 soil samples were collected and analyzed for volatile organic compounds (VOCs), organochlorine pesticides, polychlorinated biphenyls (PCBs), and metals. Analytes were chosen based on known past activities at the site and discussions with an on-site representative from the California Department of Health Services. Analytical results indicated three soil samples contained detectable concentrations of the requested parameters, but all detection levels were below Region IX Preliminary Remediation Goals. Detected constituents include high-boiling fuel hydrocarbons,

pesticides, and semi-volatile organic compounds, which are indicative of petroleum products (61 ABG 1997).

The entire drainage swale (100 ft. long by 15 ft. wide) was excavated to remove drums, debris, and stained soil from the property. The excavated soils and waste were disposed off-site at the Kettleman Hazardous Waste Landfill, Rollins and Rochem Disposal Facilities (drum incineration), and a Class III Landfill. Several drums and approximately 1,790 cubic yards of contaminated soil were excavated and disposed off-site.

Following the removal, the Cal/EPA concurred with a no further action recommendation for the site in a correspondence dated June 18, 1997 (61 ABG 1997).

7.1.6 Facility Disclosure Factor Findings

This section presents the findings for each of the facility disclosure factors.

7.1.6.1 Air Quality

The South Coast Air Quality Management District regulates air quality in this area. LAAFB is located within Los Angeles County, which has been designated a federal and state non-attainment area for ozone, carbon monoxide, and PM10. Los Angeles County is a state attainment area for sulfates and has not been classified for hydrogen sulfide (CA Air Resources Board 1999).

Base Environmental staff provided a list of LAAFB permitted and non-permitted Air Emission Sources. No permitted or non-permitted Air Emission Sources were identified at Pacific Heights or Pacific Crest.

7.1.6.2 Asbestos Containing Materials (ACM)

29 CFR Section 1910.1001 states *"Presumed asbestos containing material means thermal system insulation and surfacing material found in buildings constructed no later than 1980."* The housing units at Pacific Heights and Pacific Crest were constructed between 1987 and 1989, and it is presumed no asbestos-containing materials were used.

At the time of the site reconnaissance, additional housing was being constructed northeast of the Pacific Heights housing area. The new construction was taking place at a former Navy housing area. One Navy housing unit was still extant and was being used as a construction management office. According to LAAFB Environmental staff, the Navy housing units contained ACM, and the existing Navy structure is to be demolished during subsequent stages of construction.

7.1.6.3 Drinking Water Quality

Air Force personnel do not perform routine drinking water surveillance on water purchased from the LADWP. The Air Force relies on data collection and water quality reports prepared by the supplier.

The water quality of the confined aquifers is generally suitable for most uses, as dissolved solids concentrations are generally less than 500 mg/L and concentrations of chloride do not exceed U.S. EPA drinking water standards. Imported water for recharge has higher concentrations of dissolved solids, chloride and sulfate than groundwater; however, the quality of the mix of native ground water and imported water is within state and federal drinking water standards (U.S.G.S, 1995). As required by state and federal law LA DWP regularly tests the water at approximately 300 locations around the City; according to the City of Los Angeles, the water meets all State and Federal drinking water standards (City of LA, 1996).

The EDR report includes a summary of water quality data for wells within two miles of the target property (EDR, 1999a).

7.1.6.4 Lead-Based Paint (LBP)

According to EPA, *"The sale of lead-based paint for residential use has been banned since 1978."* The housing units at Pacific Heights and Pacific Crest were constructed between 1987 and 1989, and it is presumed lead-free paint was used.

7.1.6.5 Medical/Biohazardous Waste

A review of available information did not indicate the presence of medical or biohazardous wastes at either housing area.

7.1.6.6 Ordnance

A review of available information did not indicate the current presence of munitions at either housing area.

During World War II, Fort MacArthur placed two 16-inch rifles at White Point, on the north central portion of the property. In addition, support facilities, including a motor pool area, were built to the south of the intersection of 25th Street and Western Avenue. Between 1943 and 1946, all of the major armament was inactivated; most was sold for scrap (LAAFB, 1997; SMC, 1995).

7.1.6.7 Pesticides

Pesticides are routinely applied throughout LAAFB. LAAFB has a pest management program with a list of approved pesticides. Only those insecticides, herbicides, and fungicides found on the Department of Defense standardized approval list are applied. An inventory of pesticides used on base is provided in Appendix E-7.

7.1.6.8 Polychlorinated Biphenyls (PCBs)

Transformers at the Pacific Heights and Pacific Crest housing areas are dry-type and do not contain PCBs. The housing units were constructed between 1987 and 1989, and it is presumed fluorescent lights installed do not contain PCB ballasts.

The PCB Activity Database System (PADS), as listed in the EDR report (EDR, 1999a) identifies generators, transporters, commercial storers, brokers, and disposers of PCBs

who are required to notify the USEPA of such activities. The database did not identify reports of PCB activity on the subject property.

7.1.6.9 Radon

The National Radon Database, developed by the USEPA, is a compilation of the USEPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 to 1992. 63 sites were tested in the County of Los Angeles. 100 percent reported radon levels below 4.0 pCi/L in the basement, 98 percent reported radon levels below 4.0 in the first floor, and 2 percent reported radon levels between 4 and 20 percent in the first floor (EDR, 1999a).

The U.S. EPA and the U.G.S.G. have evaluated radon potential in the U.S. Each county of the U.S. is designated as one of three zones, based on radon potential which "reflects the average short-term radon measurement that can be expected to be measured in a building without the implementation of radon control methods." According to these evaluations, this region is categorized as Zone 2 – Moderate Potential (2-4 pCi/L may be encountered in a building without radon control). This information is developed to "assist national, state, and local organizations to target their resources and to assist building code officials in deciding whether radon-resistant features are applicable in new construction" (EPA, 1999).

7.1.6.10 Radiological Substances

A review of available information did not indicate the presence of radiological substances at either housing area.

7.1.7 Conservation Disclosure Factor Findings

Conservation disclosure factors include cultural resources, biological resources, and physiographic conditions. A search of federal environmental databases was conducted by Environmental Data Resources, Inc. (EDR). From the search information, EDR identifies and plots potential or existing environmental liabilities on a radius map, with the Pacific Heights/Pacific Crest area as the central location. The following is a list of databases searched by EDR (EDR, 1999b):

- National Floodplain Data; 47 CFR 1.1307(6)
- National Wetland Inventory Data; 47 CFR 1.1307(7)
- National Register of Historic Places; 47 CFR 1.1307()
- Federal Lands Data and State Databases; 47 CFR 1.1307(1,2). This includes data on officially designated wilderness areas, officially designated wildlife preserves, sanctuaries and refuges, and wild and scenic rivers, and other natural areas.
- Threatened or Endangered Species and Critical Habitat Data; 47 CFR 1.1307(3)

Information pertaining to these factors is included in the subsections that follow.

7.1.7.1 Cultural Resources

Cultural resources are prehistoric and historic sites, structures, artifacts, or other physical evidence of human activities considered important to a culture, community, or religion. The State Office of Historic Preservation and the Advisory Council on Historical Preservation are two agencies that stipulate processes for compliance with laws and regulations regarding cultural resources. The primary law governing cultural resources is the National Historic Preservation Act (NHPA). Among other things, NHPA addresses the protection of historic and cultural properties.

According to the EDR NEPA Check report, no historic sites have been identified on the subject property by the National Register of Historic Places (NRHP) (EDR, 1999b). However there are structures present within the Pacific Heights property of historical significance. These sites are the following:

Base End Stations: B'6 Farley & B'4 Mirriam

Two semi-subterranean bunkers that once housed optical instruments used in aiming the large artillery pieces located at Fort MacArthur's Upper Reservation are located within Pacific Heights property. The bunkers are the remaining two of six cube-shaped, eight-foot-square base end stations. B'6 Farley was moved several meters in December 1998 and again in June 1999 to accommodate new housing. It has been carefully reinstalled in its new location and its historical appearance has been preserved. It was originally determined eligible for listing on the NRHP, however, the State Historic Preservation Officer (SHPO) has indicated that moving B'6 Farley may have compromised its integrity and made it ineligible for the NRHP. B'4 Merriam is almost completed buried in its original location, directly behind the World War II Alternate Battery Commander's Station (LAAFB 1999).

Alternate Battery Commander's Station

The World War II Alternate Battery Commander's Station was used to direct fire for the twin 16-inch guns of Battery Bunker. The semi-subterranean Commander's Station differs from the older base end stations because it has a rounded concrete front roof and a width of approximately 22 feet (LAAFB 1999).

Battery Bunker Plotting, Survey, and Radio Room

A reinforced concrete structure measuring approximately 102 feet long by 52 feet wide with 12-foot thick walls is located within a few meters of housing construction at Pacific Heights. The bunker housed command rooms for the twin 16-inch artillery pieces. The bunker is almost completed buried. Only an emergency escape hatch, resembling a manhole cover, is visible. The artillery pieces mentioned are located outside Pacific Heights property, to the south (LAAFB 1999).

The EDR NEPA Check report revealed two historic sites located within a one-mile radius of Pacific Heights and Pacific Crest:

Battery John Barlow and Saxton

This site consists of one structure and 90 acres and is listed in the National Register of Historic Places, certification date of 4 May 1982. This site is located between ½ to 1-mile east-southeast of the subject property, along the coastline.

Battery Osgood
This site consists of one structure and 90 acres and is listed in the National Register of Historic Places, certification date of 4 May 1982. This site is located between ½ to 1-mile south-southeast of the subject property, within the boundaries of the Fort MacArthur AFB.

7.1.7.2 Biological Resources

The biological resources discussed in this section include threatened and endangered species, sensitive habitats, wetlands, and valuable resources.

7.1.7.2.1 Threatened and Endangered Species and Sensitive Habitats

According to the EDR NEPA Check report, no threatened and endangered species or sensitive habitats have been identified on the subject property (EDR, 1999b). Nearby Fort MacArthur was identified as a federal natural/wildlife feature, within ¼ mile of the subject property. No other state and federal natural/wildlife locations and features were identified within 1 mile of the subject property.

7.1.7.2.2 Wetlands

According to the EDR NEPA Check report, no wetland areas have been identified on the subject property (EDR, 1999b). Two wetland areas were identified within 1/2 to 1-mile southwest of the subject property and one wetland area was identified within 2 miles east of the subject property. The off-site wetland areas are within 100-year floodplains and are located along the coastline.

7.1.7.3 Physiographic Conditions

Physiographic conditions discussed in this section include flood zones, landslides, sinkholes, seismic conditions, and water rights.

7.1.7.3.1 Flood Zones

According to the EDR NEPA Check report, the subject property is not located within a 100-year or 500-year flood zone (EDR 1999b). The report indicated both 100-year and 500-year flood zones within 1/2 to 2 miles of the subject property. The closest 500-year flood plain, between ½ to 1 miles northwest of the subject property, begins at an elevation of approximately 560 feet and extends northwestward and southwestward. A second 500-year flood plain, located between 1 to 2 miles east of the subject property, begins at an elevation less than 20 feet and extends north and west along the coast. The 100-year flood plain, located between ½ to 1 mile south of the subject property, begins at an elevation approximately 40 feet and extends west, east, and north along the coast.

7.1.7.3.2 Landslides

Landslides are a physiographic concern in Los Angeles County. However, landslides greater than 5 acres have not occurred within a mile of Pacific Crest and Pacific Heights (Occidental College 1999).

7.1.7.3.3 Seismic Conditions

According to the EDR NEPA Check report, no fault lines have been identified on the subject property, nor within two miles of the subject property (EDR, 1999b). However, seismic conditions are a concern for Los Angeles County and Pacific Crest and Pacific Heights. The Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including seismically induced landslides and liquefaction. A review of the Seismic Hazard Zones Map for San Pedro Quadrangle (the quadrangle in which Pacific Crest and Pacific Heights are located) indicates that the housing areas are not situated within an area of concern for liquefaction or seismically induced landslides (CA Dept. of Cons. 2000).

7.1.7.3.4 Water Rights

Surface water is not present at Pacific Heights or Pacific Crest. LAAFB does not extract ground water; however, overlying land owners in most areas of California may extract ground water and put it to beneficial use. California does not have a permit process for regulation of ground water use but in several basins ground water use is subject to regulation (State Water Resources Control Board 1999). The Los Angeles Regional Water Quality Control Board has a *Basin Plan* designed to preserve and enhance water quality and protect the beneficial uses of all regional waters (RWQCB 1999).

7.2 ADJACENT PROPERTY FINDINGS

This section of the EBS presents the findings of the adjacent properties assessment and describes the approach used to conduct the assessment. The assessment of adjacent properties included a visual "windshield" survey and a search of environmental regulatory databases.

A windshield survey was conducted to evaluate adjacent and vicinity properties in September 1999. Adjacent/vicinity properties were inspected from public roadways, or by site survey, as accessible. The following properties were observed in the vicinity of the Pacific Heights housing area:

- To the north: residential development; Pacific Crest to the northwest; additional housing under construction to the northeast (see Section 7.1.6.2)
- To the east: grass slope to vacant lowlands, ocean
- To the south: vacant land, dense with trees; commercial area to the southwest
- To the west: a convent

The commercial area to the southwest is located at the intersection of Western Avenue and 25th Street. Businesses in this area include: a "76" gasoline station on one corner; Lucky Grocery Store; a Mobile gasoline station on another corner; and commercial/retail businesses in a plaza including cleaners, restaurants, barbers, etc.

The following properties were observed in the vicinity of the Pacific Crest housing area:

- To the north: grass slope to lowland with residential development
- To the east: residential development; Pacific Heights to the southeast
- To the south: a convent
- To the west: a convent, residential development

An Environmental Data Resources (EDR), Inc. database report was obtained for Pacific Heights and Pacific Crest. The report consists of an information search of federal and state environmental regulatory databases, arranged according to various search radii (listed within the report by database) centered on the junction of Western Avenue and 25th Street, San Pedro, California.

Approximately 32 adjacent properties of potential concern were identified in the EDR report (EDR, 1999a). These properties were located within one mile of the boundary of Pacific Heights and Pacific Crest, primarily along 25th Street and Western Avenue.

The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known migration. The source is the California Environmental Protection Agency/Office of Emergency Information.

Three Cortese sites were identified within one mile of the subject property. One of the sites listed was Fort MacArthur. The site of concern at Fort MacArthur was a leaking diesel UST discovered in April 1991; a remediation plan was developed as of 1994. Fire Station 101, located at 1414 W. 25th Street, was designated "remedial action completed or deemed unnecessary." No information was available from the Cortese entry for the remaining site, the 76 Products Station located at 1603 W. 25th Street.

A search of Leaking UST Incident Reports revealed 2 sites within 0.5 miles of Pacific Heights and Pacific Crest. The two sites are Fire Station 101 and the 76 Products Station discussed above. However, additional information on the 76 Station is available in the Leaking UST database. A leaking UST was reported in October 1992; the status of the site as of 1997 was "remedial action completed or deemed unnecessary."

The UST database indicated there are 5 registered UST sites within approximately 0.25 miles of Pacific Heights and Pacific Crest. The source of the information is the State Water Resources Control Board's Hazardous Substance Storage Container Database. No information is available regarding tank integrity in the UST database. Two of the sites, Service Station 4061 (76 Products Station) and Union Oil Service Station 406, have the same address and owner, and are likely to be duplicate entries.

A review of the CA FID list identified four sites within 0.25 miles of the subject property. This database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board. Two of the sites were Fire Station 101 and Jack Rips, discussed above. The CA FID database does not provide any additional information on these sites. The remaining CA FID sites, John A. White DBA So. Shore Unocal and South Shores Chevron, are listed as active underground storage tank locations.

Review of the Resource Conservation and Recovery Information System (RCRIS) database revealed there are 7 Small Quantity Generator (RCRIS-SQG) sites within approximately 0.25 miles of Pacific Heights and Pacific Crest. No violations were reported for the SQGs. According to HAZNET, 11 sites within approximately 0.25 miles of Pacific Heights and Pacific Crest have manifested HW for disposal.

Additional sites were included in the EDR report that could not be plotted by the report preparer due to incomplete location information. The 31 sites that were not plotted consisted of the following categories: 1 CERCLIS/NFRAP site (Navy Housing), 1 UST site, 8 HAZNET sites (including Navy Housing), 5 SWF/LF sites, 1 RCRIS-SQG/FINDS site, and 15 ERNS sites.

The information available in the EDR Report did not indicate any adverse impacts to Pacific Heights or Pacific Crest from the vicinity sites. However, there is potential for Area A to have been or be adversely affected by adjacent properties. A copy of the EDR report is contained in Appendix I.

7.3 SUBJECT PROPERTY CATEGORIZATION

Based on available information, the subject property and utility corridors are characterized and coded according to seven categories. Explanations of the seven categories and the findings for Pacific Heights and Pacific Crest are provided below (Figures 7-3 and 7-4).

Category 1: Areas where no release or disposal of hazardous substances or petroleum substances has occurred (including no migration of these substances from adjacent areas). The Pacific Crest housing area and the majority of the Pacific Heights housing area and associated utility corridors were classified as Category 1.

Category 2: Areas where only release or disposal of petroleum substances has occurred. No locations were classified as Category 2.

Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require removal or remedial response. No locations were classified as Category 3.

Category 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions have been taken. The Disposal Area IRP

site (LF-04), located at the Pacific Heights housing area, and associated utilities were classified as Category 4.

Category 5: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions are underway, but not yet taken. No locations were classified as Category 5.

Category 6: Areas where release, disposal, and/or migration of hazardous substances has occurred, but remedial actions have not been implemented. No locations were classified as Category 6.

Category 7: Areas that have not been evaluated or require additional evaluation. No locations were classified as Category 7.

7.4 REFERENCES

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8.1 SUMMARY OF FINDINGS

The following sections summarize the property categorization for each area at LAAFB and discuss potential environmental concerns, based on observations collected during the site surveys and the results of interviews and records reviews. The following property categorizations were applied (from AFI 32-7066 ~ REVISED INSTRUCTIONS, April 26, 1999, Section 6.3.3 Property Categorization):

Category 1 – Areas where no release or disposal of hazardous substances or petroleum substances has occurred (including no migration of these substances from adjacent areas).

Category 2 – Areas where only release or disposal of petroleum substances has occurred.

Category 3 – Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require removal or remedial response.

Category 4 – Areas where release, disposal, and/or migration of hazardous substances have occurred, and all removal or remedial actions have been taken.

Category 5 – Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions are underway, but not yet taken.

Category 6 – Areas where release, disposal, and/or migration of hazardous substances has occurred, but remedial actions have not been implemented.

Category 7 – Areas that have not been evaluated or require additional evaluation.

8.1.1 Area A

The majority of Area A and associated utility corridors were categorized as Category 1, including Buildings 100, 115, and 120. At the time of construction, each building was equipped with a UST to provide back-up fuel for its boilers. It is inferred from LAAFB records that the USTs were closed and removed without encountering contamination or requiring remediation. The Regional Water Quality Board reviewed documentation on the removal of the USTs from Buildings 100, 115, and 120, and indicated no further action was required to address these sites in correspondence dated July 27, 1995 and December 4, 1995.

The Gate 3 UST Site and areas near Buildings 105, 110, and 125 and the associated utility corridors were classified as Category 2. These sites are former Leaking UST and petroleum IRP sites. Soil contamination was addressed at Buildings 105 and 110 via soil removal and bioventing systems were installed at Building 125 and the Gate 3 UST Site. The Regional Water Quality Control Board concurred with no further action recommendations for all of these sites in correspondence dated December 4, 1995, September 26, 1996, and October 28, 1996.

The Chemical (Pesticide) Disposal Area (SD-10) and Building 130 and associated utility corridors were classified as Category 3 locations. Hazardous substances were detected at these sites, but the detected concentrations did not exceed regulatory cleanup levels. Subsurface investigations conducted in 1989 at Site SD-10 detected methoxychlor, PCBs and arsenic in soils. The subsurface investigation conducted in 1990 by CTL Environmental Services adjacent to Building 130's east end revealed the presence of volatile organic, semi-volatile organic, and inorganic compounds in soils. Utility repair workers or other personnel who may be required to excavate soil at these sites could encounter contaminants, and therefore information should be made available to them for health and safety planning purposes.

The Building 130 Neutralization Basin (WP-16) site and associated utility corridors were classified as Category 4, since remedial actions have been taken. According to LAAFB records, a no further action recommendation was accepted and the site was closed on February 11, 1996.

8.1.2 Area B

The majority of Area B and associated utility corridors including Buildings 201, 202, 205, 206, 207, 209, 211, 212, 213, 214, 218, 222, 224, 225, 226, 227, 228, 242, 243, 244. and 251 were classified as Category 1. Some of these Area B structures originally had industrial functions and it is expected that hazardous substance and petroleum product storage occurred historically throughout the properties. However, no information regarding releases or disposals has been uncovered.

Areas near Buildings 200, 208, 219, 220, 229, 235, 240, and 241 associated utility corridors were classified as Category 2. Recorded releases of petroleum substances have occurred at these areas.

The former seepage pit area near Building 215 and its associated utility corridors were classified as Category 4. Remedial construction was required to remove, decontaminate, and dispose of a former seepage pit and associated underground piping. Approximately 500 tons of dirt and concrete debris, including visibly contaminated soil, were removed from the seepage pit excavation.

No closure documentation was found for two 10,000 gallon USTs identified on the 1964 Master Plan drawing. The drawing indicates the USTs were located south of Building 215 and adjacent to Douglas Street. This area and associated utility corridors were classified as Category 7.

8.1.3 Lawndale Annex

Lawndale Annex was classified as Category 1 property. Two underground waste petroleum, oils, and lubricants (POL) storage tanks were used during the operation of the Lawndale Army Missile Plant (LAMP) from 1964 to 1971. The USTs were removed in 1990, after both passed tank tightness tests. No remedial action was required for underlying soils following UST removal.

8.1.4 Fort MacArthur

The northern portion of Fort MacArthur, which has been used as a military reservation since 1888, is classified as Category 1. The housing areas constructed in 1982 and 1985 were also classified as Category 1. The IRP Phase I Records Search Report indicated that soil borings and extensive excavations associated with the construction of the housing areas adjacent to and south of the Former Trona Complex did not reveal the presence of former landfills, disposal sites, or spillage.

The former site of the 10,000-gallon fuel USTs (east of Building 104 and 105) is classified as a Category 2 site. The Los Angeles Regional Water Quality Control Board accepted a no further action recommendation following soil and groundwater investigations.

The Building 113 Pesticide Wastewater Soakage Pit (IRP Site DS-2) is classified as a Category 3 site. In July and August of 1988, IT Corporation advanced six soil borings to ten feet below grade to evaluate the presence and extent of contamination at the site. Detections of methoxychlor, 4,4'-DDE, and arsenic in the soil borings were below cleanup action levels, and Cal/EPA's Department of Toxic Substances Control concurred with a no further action recommendation in a correspondence dated October 17, 1997. Utility repair workers or other personnel who may be required to excavate soil at this site could encounter contaminants, and therefore information should be made available to them for health and safety planning purposes.

The Building 453 Battery Acid Neutralization Pit (IRP Site DS-1) is classified as a Category 4 site, since it has been capped, in effect, by the placement of fill and the construction of a roadway.

The former Trona Complex is classified as a Category 7 area due to incomplete data regarding decommissioning of fuel ASTs observed on historic Sanborn Maps and aerial photographs. The ASTs were located on the north side of the Trona Complex, and this area may not have been characterized during demolition and excavation work for the housing area. No records were found regarding comprehensive investigations or characterization of the former Trona Complex, which housed multiple commercial/industrial operations subsequent to the cessation of nitrate processing operations, including auto repair facilities.

The Phase I IRP Records Search Report identified 8 sites with abandoned USTs that had not yet been removed. Considering the two USTs remediated east of Buildings 104 and 105, the final closure of six USTs is not yet documented. These USTs operated adjacent to Buildings 80, 408, 42, and 32. These UST sites are also classified as Category 7 sites pending review of closure documentation, as available.

8.1.5 Pacific Heights and Pacific Crest

The Pacific Crest housing area was classified as Category 1. It is possible that hazardous substances were stored on the property during prior military use, however no reports were

found in LAAFB's records indicating that contaminated soil or other environmental releases were encountered during construction of the Pacific Crest housing area.

The Pacific Heights housing area was classified as Category 4 due to the discovery and remediation of the Disposal Area IRP site (LF-04). Buried drums and contaminated soil were found when construction excavation was initiated for the housing area. Apparently, a former drainage swale had been used as a disposal area during demolition of the former Whites Point motor pool activity and NIKE site. Following the excavation and removal of the waste, Cal/EPA concurred with a no further action recommendation for the site in correspondence dated June 18, 1997.

8.2 ASBESTOS-CONTAINING MATERIALS

The asbestos survey database maintained by LAAFB Environmental staff indicates that buildings on Area A, Area B, Lawndale Annex, and Fort MacArthur contain asbestos. Applicable regulations do not require the removal of asbestos solely due to its presence. However, owners are required to implement management practices that minimize personnel exposure to ACM and to address asbestos material prior to renovation or demolition activities.

Any construction or demolition activities that are performed within the vicinity of the ACM should comply with local, state, and federal regulations including OSHA standards and the National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulation (40 CFR Part 61, Subpart M). ACM must be removed from the buildings before any activity begins that would break up, dislodge, or similarly disturb the materials or preclude access to the material for subsequent removal. Any damaged ACM should be abated or encapsulated according to federal, state, and local regulations.

ACM is also expected to be present in some of the utility systems at LAAFB. Water distribution piping at Area A, Area B, Lawndale Annex, and Fort MacArthur may be primarily or partially comprised of asbestos-concrete pipe. Civil Engineering staff indicated ACM may also be present at these areas in the form of asbestos-insulated conductors in high voltage electrical systems and asbestos-concrete wiring conduits.

It is presumed that ACM is not present in the housing areas at Fort MacArthur constructed in 1982, 1985, and 1987-1989 (includes Pacific Heights and Pacific Crest).

8.3 LEAD-BASED PAINT

The asbestos survey database maintained by LAAFB Environmental staff indicates that buildings and parking lot structures (painted curbs, etc.) on Area A, Area B, Lawndale Annex, and Fort MacArthur contain lead-based paint. There are no non-residential regulations requiring lead paint removal. However, the presence of lead-based paint requires consideration in regard to renovation/repainting or demolition debris disposal activities. Construction work where an employee may be exposed to lead must comply with 29 CFR Part 1926.62. A lead-based paint survey is recommended prior to any planned renovations or building demolition, if the specific work area and painted elements within it have not been previously characterized.

It is presumed that lead-based paint is not present in the housing areas at Fort MacArthur constructed in 1982, 1985, and 1987-1989 (includes Pacific Heights and Pacific Crest).

9.0 CERTIFICATION & LIST OF PREPARERS

Certification of
Los Angeles Air Force Base, California
Environmental Baseline Survey

The preparers of this Environmental Baseline Survey of Los Angeles Air Force Base, CA conducted a records search, reviewed all appropriate records made available and performed visual site surveys when permitted. The information contained within this report is subject to limitations inherent in the investigative techniques used but, based on the information made available, is accurate to the best of the preparer's knowledge.

John Logigian
Associate
Malcolm Pirnie, Inc.

6/30/00
Date

I certify that the property conditions stated in this report are based on a thorough review of available records and visual surveys and are true and correct to the best of my knowledge.

John Logigian
Associate
Malcolm Pirnie, Inc.

6/30/00
Date

List of Preparers of
Los Angeles Air Force Base, California
Environmental Baseline Survey

Leonard Warner, Malcolm Pirnie – White Plains, New York

Celeste Thomas, Malcolm Pirnie Inc. – White Plains, New York

Jennifer Marzinske, Malcolm Pirnie Inc. – Phoenix, Arizona

LOS ANGELES AIR FORCE BASE
AREA A
DRAFT ENVIRONMENTAL SUITABILITY DECISION DOCUMENT

Purpose

The purpose of the environmental suitability decision document (ESDD) is to support the divestment of property by identifying the subject property (Area A) via property categorization codes, disclosing environmental concerns associated with the subject property and adjacent properties, and making recommendations related to restrictions applicable to the property's use. The ESDD is also used to identify covenants that should be incorporated into real estate contracts.

Property Description

Area A of LAAFB encompasses 41.45 acres and is located at the southeast corner of El Segundo Boulevard and Aviation Boulevard in the City of El Segundo, Los Angeles County, California. LAAFB became the headquarters of the Space and Missile Division in October 1979. Area A consists of 7 buildings housing engineering, research and administrative offices and a laboratory, combined with parking areas and landscaped open space to create a campus-like setting. Area A is located in an urban/suburban setting. The surrounding property uses consist of residential, retail/commercial and light industrial uses.

Environmental Factor Findings

Property Categorization Factor Findings

Hazardous materials (HM) and hazardous wastes (HW) are used and stored at various locations throughout Area A. The largest and primary user of HM on Area A is the Aerospace Corporation's laboratory facility located in Building 130. Building 130 also houses a U.S. Air Force (USAF) Photo Shop. In addition to using and storing HM, HW is also stored in and around Building 130. Area A is designated a RCRA large quantity generator. Building 130 was classified as a Category 3 property in the Phase I Environmental Baseline Survey Utility Privatization and Real Property Transfer (EBS).

The location of a neutralization basin Installation Restoration Program (IRP) site on the northwest corner of Building 130 was classified as Category 4 due to the release of hazardous substances and subsequent remediation.

The location of a pesticide disposal area was classified as Category 3 because the detected concentrations of contaminants were below the California Total Threshold Limit (CTTL).

A Beryllium Laboratory decontamination/decommissioning event was required at Building 130. Aerospace Corporation staff interviewed were not aware of a cleanup, however, the Real Property Accountable Record for Building 130 indicates that $50,000 was expended in 1977 to demolish the Beryllium Laboratory. No further information is available on the nature or extent of the cleanup.

Area A was transferred to the USAF with 7 underground storage tanks (USTs). One UST was associated with each building. Each of these USTs has been removed, however soil contamination was encountered during removal of the fuel oil USTs at Buildings 105, 110 and 125. Contamination was addressed at Buildings 105 and 110 via soil removal, and at Building 125 via a bioventing system. These three areas were classified as Category 2. Another Category 2 property was the location of a UST near Gate 3 of Area A. This 50,000-gallon UST was designated an IRP site. The UST was removed and the surrounding soils remediated.

Facility Disclosure Factor Findings

Asbestos-Containing Materials
LAAFB Environmental staff indicated asbestos-containing materials are expected to be present in the Area A buildings and some utilities including transite/asbestos cement piping for water distribution, thermal system pipe insulation and asbestos-insulated conductors.

Lead-Based Paint
Abatement projects have been undertaken at Buildings 100, 105, and 130 to address lead-based paint in penthouses, ductwork, and floor coating. However, the abatement work conducted is limited and lead paint is expected to be present in the Area A buildings.

Recommended Restrictions
(Installation Judge Advocate Office responsibility)

Regulatory Interaction

Environmental Covenants

Finding of Suitability to _____

LOS ANGELES AIR FORCE BASE
AREA B
DRAFT ENVIRONMENTAL SUITABILITY DECISION DOCUMENT

Purpose

The purpose of the environmental suitability decision document (ESDD) is to support the divestment of property by identifying the subject property (Area B) via property categorization codes, disclosing environmental concerns associated with the subject property and adjacent properties, and making recommendations related to restrictions applicable to the property's use. The ESDD is also used to identify covenants that should be incorporated into real estate contracts.

Property Description

Area B is located at the northwest corner of El Segundo Boulevard and Aviation Boulevard in the City of El Segundo, California. The area encompasses 53.70 acres. Los Angeles Air Force Base became the headquarters of the Space Division in October 1979. Area B consists of 30 buildings and is currently used to provide logistic, administrative, transportation, and medical support for all organizations and personnel assigned or attached to the installation. Area B is located in an urban/suburban setting. The surrounding property uses consist of residential, retail/commercial and light industrial uses.

Environmental Factor Findings

Property Categorization Factor Findings

Hazardous materials are stored in various locations throughout Area B. Common hazardous materials found at Area B include combustible liquids, corrosive liquids, and compressed gases. Area B is designated as a RCRA large quantity generator. Hazardous waste generated throughout Area B is transported to and stored at several different accumulation areas prior to off-site disposal.

A former seepage pit at the northeast corner of Building 215 was designated an IRP site due to detection of volatile and semivolatile organic compounds. The area was remediated and is classified as Category 4.

Locations of leaking underground storage tank (LUST) sites near Buildings 200, 028, 219, 220, 229, 235, 240, and 241 were classified as Category 2.

An area south of Building 215 was classified as Category 7. A 1964 Area B Master Plan drawing indicates that two 10,000-gallon USTs were located in the area, however, no closure documentation was found.

Facility Disclosure Factor Findings

<u>Asbestos Containing Material</u>

Asbestos is present throughout Area B buildings. Some materials include boiler cladding, thermal system insulation pipe, and other insulated HVAC equipment. In addition, Area B may contain asbestos-insulated conductors.

Lead-Based Paint

A comprehensive lead-based paint survey has not been completed at Area B. However, when renovations are necessary, partial surveys are conducted to ensure safe working conditions.

Medical/Biohazardous Waste

The Air Force Clinic is housed in Area B, Building 200. Biohazardous wastes are accumulated in 5-gallon plastic-lined containers throughout the clinic. Wastes are transferred to and stored in a roll-off trash bin, located to the east of Building 200. The waste is then picked up and disposed of off-site by a licensed medical waste contractor.

Ordnance

An armory is located in the Security Forces Operations portion of Building 241. According to site personnel, the armory is the only area where munitions are stored at Area B. Real Property Accountable Records indicate that former Building 221 was at one time used to store explosives. A bunker located east of Building 221 was used to calibrate aircraft gun sights (via test firing) during Navy occupation of the site. The building is no longer present at Area B, but the former usage is a potential environmental concern. No documentation was found regarding the closure or decommissioning of the structure.

Polychlorinated Biphenyls (PCBs)

PCBs on base are contained in fluorescent light fixture ballasts and liquid-filled transformers. Almost every building in Area B contains fluorescent light fixtures. Civil Engineering has instituted a program to slowly eliminate PCB ballasts by replacing the ballasts when repairs are needed. The PCB ballasts are accumulated in Building 229 and then disposed of off-site. According to a binder in Environmental Engineering entitled "Liquid-Filled Transformers at LAAFB", 4 liquid-filled transformers are in Area B. One 1635-gallon transformer in the northwest corner of Building 240 has a PCB level of 3 parts per million (ppm). Two 265-gallon liquid-filled transformers between Buildings 240 and 241 and between Buildings 243 and 244, both contain less than 1 ppm PCBs. The fourth liquid filled transformer in Area B is in the northwest portion of Building 200. It is a 637-gallon transformer with a PCB level of 2ppm. Per information provided, all transformers at Area B contain less than 50 ppm PCBs.

Recommended Restrictions

(Installation Judge Advocate Office responsibility)

Regulatory Interaction

Environmental Covenants

Finding of Suitability to _____

LOS ANGELES AIR FORCE BASE
LAWNDALE ANNEX
DRAFT ENVIRONMENTAL SUITABILITY DECISION DOCUMENT

Purpose
The purpose of the environmental suitability decision document (ESDD) is to support the divestment of property by identifying the subject property (Lawndale Annex) via property categorization codes, disclosing environmental concerns associated with the subject property and adjacent properties, and making recommendations related to restrictions applicable to the property's use. The ESDD is also used to identify covenants that should be incorporated into real estate contracts.

Property Description
Lawndale Annex encompasses approximately 13.34 acres. It is located approximately 12 miles south of the City of Los Angeles, in the City of Hawthorne, California. Currently, six of the 13.34 acres are designated as football/softball field, running track, and picnic/recreation pavilion (FAM CAMP). The Federal Aviation Authority, utilizes one acre of Lawndale Annex, by permit from the Air Force, for parking. Four acres are used for parking for personnel working in Building 80. Lawndale Annex is located in an urban area; the surrounding area is primarily industrial.

Environmental Factor Findings
Property Categorization Factor Findings
Lawndale Annex was classified as Category 1.

Facility Disclosure Factor Findings

Asbestos Containing Materials (ACM)
ACM is present at Lawndale Annex. A water line tested positive for asbestos (45% asbestos) on 3 May 1993, and floor tile mastic tested positive for asbestos on 22 November 1993.

Ordnance
A review of available information did not indicate the current presence of munitions at Lawndale Annex. Since the property was formerly used as a missile plant, it can be assumed that munitions may have been stored on-site. Available information neither excludes nor includes the storage of ordnance at Lawndale Annex.

Recommended Restrictions
(Installation Judge Advocate Office responsibility)

Regulatory Interaction

Environmental Covenants

Finding of Suitability to _____

LOS ANGELES AIR FORCE BASE
FORT MACARTHUR
DRAFT ENVIRONMENTAL SUITABILITY DECISION DOCUMENT

Purpose

The purpose of the environmental suitability decision document (ESDD) is to support the divestment of property by identifying the subject property (Fort MacArthur) via property categorization codes, disclosing environmental concerns associated with the subject property and adjacent properties, and making recommendations related to restrictions applicable to the property's use. The ESDD is also used to identify covenants that should be incorporated into real estate contracts.

Property Description

Fort MacArthur is located in San Pedro, CA, approximately 21 miles south of downtown Los Angeles. The area encompasses approximately 96 acres, bordered by 22nd Street on the north, Stephen M. White Dr. on the south, Pacific Avenue on the west, and Los Angeles Harbor on the east. Fort MacArthur is currently used to provide military family housing, administrative offices, storage, Civil Engineering shops, and a parade ground in support of LAAFB.

Environmental Factor Findings

Property Categorization Factor Findings

Hazardous substances (HS) are stored and used at various locations throughout Fort MacArthur. Fort MacArthur was classified as Categories 1, 2, 3, 4, and 7. The majority of the property including, the MFH areas were classified as Category 1. The location of two former LUSTs was classified as Category 2. A pesticide wastewater IRP site was classified as Category 3 and the Building 453 battery acid neutralization IRP site was classified as Category 4. Five areas were classified as Category 7 including the former Trona Complex and the locations of six USTs without known closure documentation. The USTs operated adjacent to Buildings 80, 408, 42, and 32.

Facility Disclosure Factor Findings

Asbestos Containing Materials (ACM)

ACM are present in some Fort MacArthur buildings and some utilities including transite/asbestos cement piping for water distribution, thermal system pipe insulation and asbestos-insulated conductors..

Lead-Based Paint

Abatement projects have been undertaken at Fort MacArthur to address lead-based paint in penthouses, ductwork, and floor coating. However, the abatement work conducted is limited and lead paint is expected to be present in Fort MacArthur buildings.

Ordnance

The former American Trona Plant, Building 425, was a potash fertilizer refinery built in 1917. The U.S. Army acquired it in 1942. Anecdotal information suggests that if was used for the production of fertilizer and munitions. Other ordnance on base includes munitions maintained by Security Police and an inaccessible storage cabinet labeled

"Explosives" in Building 68. No other information was obtained regarding storage and disposal of munitions.

Polychlorinated Biphenyls (PCBs)

PCBs on base are contained in fluorescent light fixture ballasts and liquid-filled transformers. Fluorescent light fixtures are present throughout Fort MacArthur. Civil Engineering has instituted a program to slowly eliminate PCB ballasts by replacing the ballasts when repairs are needed. According to a binder in Environmental Engineering entitled "Liquid-Filled Transformers at LAAFB," 45 liquid-filled transformers are located throughout Fort MacArthur. The list indicates that all transformers at Fort MacArthur contain less than 50 parts per million (ppm) PCBs.

Conservation Disclosure Factor Findings

Cultural Resources

Twenty-seven buildings at Fort MacArthur are included in the National Register. Twenty-six of the historic buildings are within 500 Varas Square, the original Fort MacArthur land. 500 Varas Square, also known as the parade ground, is designated a Historic District. The buildings include those currently used for military family housing, base civil engineering, the clinic, and the child development center. The twenty-six 500 Varas Square buildings include: Buildings 1, 2, 3, 7, 9, 10, 11, 30, 31, 32, 33, 36, 37, 40, 41, 50, 51, 52, 53, 54, 55, 56, 102, 103, 104, and 105. The twenty-seventh building is the former American Trona Plant, Building 425.

Biological Resources.

The western portion of the subject property is included in a portion of land listed as a federal natural/wildlife feature in the Federal Lands Database (EDR 1999). The search did not identify any threatened or endangered species or critical habitats within a ½ mile radius. The eastern portion of Fort MacArthur along the Los Angeles Harbor and north of 32nd Street is classified as a wetland per the 1994 National Wetlands Inventory (EDR 1999). Another wetland is present approximately 2 miles southwest of the subject property along the harbor. The Floodplain and Wetland Map provided in Appendix H depicts the wetlands.

Seismic Conditions

Fort MacArthur lies within the San Pedro Shelf Section of the Palos Verdes Fault Zone. The fault is approximately two kilometers (km) wide and extends from beneath the San Pedro Bay to the Palos Verdes Hills. The total length of the zone may exceed 50 km. A thirty-degree change in strike at the Los Angeles Harbor may indicate a boundary between onshore and offshore sections of the fault. The record of seismicity from 1977 to 1989 indicates that only three small (magnitude less than 3.5) strike-slip events occurred near the surface trace of the fault section (USGS 1999). Figure 6-3 depicts the San Pedro Shelf Section of the Palos Verdes Fault Zone.

Recommended Restrictions

(Installation Judge Advocate Office responsibility)

Regulatory Interaction

Environmental Covenants

Finding of Suitability to _____

LOS ANGELES AIR FORCE BASE
PACIFIC HEIGHTS AND PACIFIC CREST MILITARY FAMILY HOUSING
DRAFT ENVIRONMENTAL SUITABILITY DECISION DOCUMENT

Purpose

The purpose of the environmental suitability decision document (ESDD) is to support the divestment of property by identifying the subject property (Pacific Heights and Pacific Crest) via property categorization codes, disclosing environmental concerns associated with the subject property and adjacent properties, and making recommendations related to restrictions applicable to the property's use. The ESDD is also used to identify covenants that should be incorporated into real estate contracts.

Property Description

Pacific Heights and Pacific Crest are military housing areas, constructed between August 1987 and August 1989, to provide family housing for LAAFB personnel. The Pacific Heights and Pacific Crest housing areas encompass approximately 11.34 acres and 22.09 acres, respectively. The housing areas are located approximately 25 miles southeast of the City of Los Angeles, in the community of San Pedro, California. Pacific Heights is located in an area known as Whites Point on the Palos Verdes Peninsula (LAAFB, 1997), south of 25th Street and west of Western Avenue. Pacific Crest is located north of Pacific Heights, north of 25th Street and west of Western Avenue. These housing areas are located in a suburban setting.

Environmental Factor Findings

Property Categorization Factor Findings

Pacific Crest and the majority of Pacific Heights were classified as Category 1. The location of an Installation Restoration Program (IRP) site at Pacific Heights was classified as Category 4. The IRP site was discovered in 1987 and was used for disposal of hazardous wastes; it has since been remediated.

Recommended Restrictions

(Installation Judge Advocate Office responsibility)

Regulatory Interaction

Environmental Covenants

Finding of Suitability to _____